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WILDLIFE REVIEW

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UNITED STATES DEPARTMENT OF THE INTERIOR
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BUREAU OF SPORT FISHERIES AND WILDLIFE

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WILDLIFE REVIEW

An abstracting service for wildlife management
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by the Bureau of Sport Fisheries and Wildlife
Fish and Wildlife Service
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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor.

NATURAL RESOURCES & CLIMATE

Turcek, F. J. THE ZOOLOGICAL SIGNIFICANCE OF ECOLOGICAL AND GEOGRAPHICAL BORDERLANDS. Acta Zool. Acad. Sci. Hungaricae 12(1-2): 193-201. 1966. [From Bird-Banding 37(4), 1966.] WR 125: 2

SOILS

Matthews, Earle D., and William U. Reybold III. SOIL SURVEY OF QUEEN ANNES COUNTY, MARYLAND. SCS. ii + 117 p., 23 figs. + single-fold maps based on aerial photos and bound in. Sept. 1966. Sold by Supt. Documents. WR 125: 2
With a section on wildlife.

CONSERVATION EDUCATION

Scott, Thomas G. SELECTION OF STUDENTS FOR GRADUATE TRAINING IN FISHERIES AND WILDLIFE. J. Wildl. Mgmt. 31(1): 205-212. Jan. 1967. WR 125: 2
[Oreg. State Univ., Corvallis.] Abstract: There is no method or combination of methods which will invariably identify the student who will succeed in graduate work. The previous academic record and letters of recommendation from people known to the admissions officer constitute the most practicable information on which to base judgments. Aptitude tests tend only to confirm the validity of the undergraduate academic record. A married student may be a greater risk than an unmarried student. Ability to meet the physical demands of graduate work in fisheries and wildlife sciences seems to be inversely related to the age of the student. The student with a rural background, when compared to a comparable student with an urban background, is more likely to have an understanding of ecological relationships, to be more effective in solving field problems, and to have acquired self-discipline, dedication to duty, and a responsible attitude.

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Dansereau, Pierre, Peter F. Buell, and Ronald Dagon. A UNIVERSAL SYSTEM FOR RECORDING VEGETATION. II. A METHODOLOGICAL CRITIQUE AND AN EXPERIMENT. Sarracenia no. 10. p. 1-64, 25 figs. Nov. 1965. WR 125: 2
[N.Y. Botanical Garden, Bronx.] The universal system for recording vegetation proposed by Dansereau in 1958 has been re-examined in order to question its consistency and logic, to test the flexibility of the method, and to include additional criteria or alternatives (and symbology) for what may prove to be shortcomings. A simplified version of crown outlines for erect woody plants has been presented, providing a means of greater reliability and repeatability in field observations. A recommendation has been made that investigators present their data in terms of actual heights of vegetative layers rather than placing them in arbitrary height-classes. An inventory of structural-forms for each study area has been added as a supplement to the standard structural diagram and is termed a "range-diagram."--From summ.

Jaynes, Richard A. NATURAL REGENERATION FROM A 40-YEAR OLD CHINESE CHESTNUT PLANTING. J. Forestry 65(1): 29-31, 6 figs. Jan. 1967. WR 125: 2
Abstract: A Chinese chestnut planting of PI 58602 stock was established successfully 40 years ago in Killingly, Conn. In 1965, 36 of the original 50 trees were alive and fruiting. Five acres of an adjacent old field were sampled for the amount of chestnut regeneration. Natural regeneration of chestnut has occurred in the old pasture for at least 15 years, averages about 50 chestnut trees per acre, and occurs up to 700 feet from the original planting. Some of the older volunteers have already begun to fruit. Stem form is poor both for the original trees and the seedlings even though they have developed in situations ranging from full exposure to heavy shade. The value of Chinese chestnut trees as nut producers for wildlife is stressed.

PLANTS--GENERAL, ECOLOGY, TECHNIQUES--Continued

MacDonald, R. D., and E. Thor. AMERICAN CHESTNUT IN THE SOUTHERN APPALACHIANS. J. Forestry 65(2): 121-122, 2 figs. Feb. 1967. WR 125: 3
[Univ. Tenn., Knoxville.] Abstract: A total of 480 individual trees and sprouts comprising some 204 clones of Castanea dentata were studied in the Southern Appalachians. A descriptive growth-form system was developed. Six tree characteristics were recorded to determine if they were related to blight (Endothia parasitica) incidence (presence or absence of cankers). In analysis of the data a regression equation was evolved with three of the characteristics (circumference, bark rupture, and total height) making a significant contribution. However, only ten percent of the total variation in blight incidence was accounted for by these three variables.

Winterringer, Glen S., and Alvin C. Lopinot. AQUATIC PLANTS OF ILLINOIS / AN ILLUSTRATED MANUAL INCLUDING SPECIES SUBMERSED, FLOATING AND SOME OF SHALLOW WATER AND MUDDY SHORES. Ill. State Museum Popular Sci. Ser. Vol. VI. 142 p., illus. 1966. Sold by Ill. State Museum, Springfield, at $1.25, or in quantities of 10 or more at 75¢ each. WR 125: 3

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Klima, Milan, and Jan Zejda. OISEAUX ET MAMMIFÈRES DANS LA FORÊT PRIMAIRE DE BOUBIN, RÉSERVE NATURELLE TCHÈCOSLOVAQUE. [BIRDS AND MAMMALS IN THE PRIMARY FOREST OF BOUBIN, CZECHOSLOVAKIAN NATURAL RESERVE.] Sci. & Nat. 74: 29-35. Mar.-Apr. 1966. [From J. Mammal. 48(1), 1967. In French.] WR 125: 3

Pitman, C. R. S. FURTHER NOTES ON SOME BIRD/OTHER ANIMAL ASSOCIATIONS IN AFRICA. Bull. British Ornithol. Club 82: 100-101. 1962. [From Ibis 109(1), 1967.] WR 125: 3

Webster, Barbara. WILDLIFE RECORDS OF THE EARLY 1800'S. Explorer 8(4): 22-25, illus. Winter 1966. WR 125: 3
Popular account of Ohio birds and mammals listed by Jared P. Kirtland in 1838.

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

McKinley, Daniel. THE GAY LIFE AND SAD END OF AMERICA'S PARAKEET. Explorer 8(1): 20-23, illus. Spring 1966. WR 125: 3
[Lake Erie Coll., Painesville, Ohio.] An interesting account.

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Andersen, Harald T. PHYSIOLOGICAL ADAPTATIONS IN DIVING VERTEBRATES. Physiol. Rev. 46(2): 212-243. Apr. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 3

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Bednarek, Robert, and Charles S. Davidson. INFLUENCE OF SPRAYING WITH CARBARYL ON NESTING SUCCESS IN A SAMPLE OF BIRD-BOXES ON CAPE COD IN 1965. Bird-Banding 38(1): 66-72, 1 fig. Jan. 1967. WR 125: 3
[Truro, Mass.] "The only evidence of a pesticide effect was on the only nest of birds hatched close to the time of spraying. These five young were found dead in the nest and contained significant concentrations of the pesticide residue."--Courtesy/ Paul A. Stewart.

Bubenîk, Antonin B., Vladislava Jovič, Ivan Gajič, and Rudolf Tachezy. DEJSTVO UMIRUJUČIH SREDSTAVA IZ GRUPE CHLORDIAZEPINA NA JAREBICE (PERDIX L.) I FAZANE (PHASIANUS SP. I CHRYSOLOPHUS PECTUS). [THE EFFECT OF TRANQUILIZERS FROM THE GROUP OF CHLORDIAZEPINES ON PARTRIDGES (PERDIX L.) AND PHEASANTS (PHASIANUS SP. AND CHRYSOLOPHUS PECTUS).] Jelen 4: 75-84, 3 figs. 1966. In Serbocroatian with Russian and English summ. WR 125: 4

Helms, Don R., and Howard J. Stains. KILL OF MAMMALS AND BIRDS AND ENTRAPMENT OF TURTLES ON RAILROAD TRACKS. Trans. Ill. State Acad. Sci. 59(3): 297. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 4

Horstadius, S. DE L'EFFET DÉSASTREUX DE L'ENROBAGE DES SEMENCES SUR L'AVIFAUNE SUÉDOISE. [ON THE DISASTROUS EFFECTS OF SEED-DRESSINGS ON SWEDISH AVIFAUNA.] Oiseau 35 (suppl.): 71-75. 1965. [From Ibis 109(1), 1967. In French.] WR 125: 4

Summary of Otterlind and Lennerstedt's work as published in Vår Fågelvärld 23: 363-415. Emphasis is laid on the special dangers of mercury seed-dressings which have led to complete extermination of some species over wide areas of Sweden, and reduced fecundity in many others.

Mills, Harlow B., William C. Starrett, and Frank C. Bellrose. MAN'S EFFECT ON THE FISH AND WILDLIFE OF THE ILLINOIS RIVER. Ill. Nat. Hist. Surv. Biol. Notes no. 57. p. 1-24, 16 figs. June 1966. WR 125: 4

A documented report on changes in the Illinois River, primarily in the past 75 years with emphasis on the biological modifications which have occurred and are occurring as a result of man's activities. The effects on bottom fauna, aquatic vegetation and fish populations are mentioned as well as the effects on waterfowl [lesser scaup, ring-neck duck, canvasback, ruddy duck and mallard] and other birds [prothonotary warbler, double-crested cormorants, great blue heron and the American egret.]

Salter, David Wilson. FIELD AND LABORATORY STUDIES INVOLVING SOME OF THE EFFECTS OF PARATHION ON BIRDS. Ph.D. thesis, Univ. Nev. [v] + 92 p., 24 figs. June 1966. WR 125: 4

A measurement of acute toxicity via the LC50 test could not be accomplished with starlings using feed that was artificially contaminated with technical grade parathion in corn oil solution. The starlings simply could not be induced to ingest sufficient quantities of contaminated feed that would permit a measurement of toxicity. Feed that was contaminated under actual field conditions had the same repelling effect on red-winged blackbirds. Hence, it appears that ingestion of naturally occurring feed in the field that has been contaminated with parathion at the dosage rate of eight ounces per acre, may not play a very significant role in wildlife mortality among blackbirds, starlings, and many other bird species. Larger birds such as black-billed magpies and red-winged blackbirds did not experience any overt effects from a single exposure to parathion used at the dosage rate of eight ounces per acre. Smaller birds such as the cowbirds, however, appeared to be more susceptible to a single exposure. Hence, it is possible that some of the smaller birds that are caught in the spray may experience some mortality in the field.--From concl.

WILDLIFE--PARASITES & DISEASES

Mossman, Archie S. WILDLIFE AND THE TSETSE FLY IN RHODESIA. Natl. Parks Magazine 40(228): 10-15, illus. Sept. 1966. WR 125: 4

[Humboldt State Coll., Arcata, Calif.] "The exterminative shooting can be converted to sustained yield cropping of game within the tsetse zones, while the advance of tsetse is prevented by concerted effort on the periphery of tsetse areas. In spite of statements to the contrary, the game killing as presently practiced was not, and is not justifiable as a means of stopping tsetse advance, even if one accepts game killing as the best method. There

are many tools available to prevent tsetse advance, and even more to prevent or live with trypanosomiasis. Careful appraisal within each local area will determine which are most applicable. It is highly unlikely that any single method will work best in all areas."

WILDLIFE--POPULATIONS & FLUCTUATIONS

Wilkening, Marvin H. AN AMAZING REPORT -- TEN YEARS OF BIG GAME WATCHING. New Mexico Wildl. 11(5): 28-30, 1 fig. Sept.-Oct. 1966. WR 125: 5
Average numbers of elk, deer, and turkey seen per 50 miles driven in the Gila Forest for each year from 1956 through 1965 were 2, 5 and 5, respectively -- based on 122 trips during the period.

WILDLIFE--BIOMETRICS

Cook, L. M., L. P. Brower, and H. J. Croze. THE ACCURACY OF A POPULATION ESTIMATION FROM MULTIPLE RECAPTURE DATA. J. Animal Ecol. 36(1): 57-60, 1 fig. Feb. 1967. WR 125: 5
[Univ. Manchester, Manchester, England.] Summary: A multiple recapture census has been made under field conditions on a small population of known size. The analysis provides estimated values which are encouragingly close to the true ones.

Sharrock, J. T. R. WEEK-END BIAS, LENGTH OF STAY OF RARITIES AND PROPORTION OF RARITIES UNDETECTED. British Birds 59(12): 556-558, 3 figs. Dec. 1966. WR 125: 5

WILDLIFE--TECHNIQUES

Bodenlos, Leonard J. TRANSMITTER BACK-PACK FOR FREE ROAMING ANIMAL. Lab. Animal Care 16(5): 454-458, 3 figs. Oct. 1966. WR 125: 5
[Williams School, New London, Conn.] Abstract: The design and construction of a back-pack for the carrying of a transmitter used in animal telemetry experiments with a free-roaming animal [dog] are described.

Golley, Frank B. LES METHODES DE MESURE DE LA PRODUCTIVITE SECONDAIRE DANS LES POPULATIONS DE VERTEBRES TERRESTRES. [METHODS OF MEASUREMENT OF SECONDARY PRODUCTIVITY OF POPULATIONS OF TERRESTRIAL VERTEBRATES.] Terre & Vie 1966(4): 393-422, 5 figs. Oct.-Dec. 1966. In French. WR 125: 5
[Univ. Ga., Athens.]

Platts, William. MODERN WILDLIFE ENFORCEMENT. Idaho Wildl. Rev. 19(1): 12-13, illus. July-Aug. 1966. WR 125: 5
Chromatography, blood precipitin test, SCUBA, FBI laboratory, jet boats, trail machines, two-way radios, planes and helicopters are among the modern techniques of fish and game law enforcement enumerated.

WILDLIFE--HUNTING AREAS & PROBLEMS

Palmer, Walter Lawrence. AN ANALYSIS OF THE PUBLIC USE OF SOUTHERN MICHIGAN GAME AND RECREATION AREAS. Ph.D. thesis, Mich. State Univ. 131 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 5

Waldbauer, Eugene C. POSTING ON PRIVATE LANDS IN NEW YORK STATE. N.Y. Fish & Game J. 13(1): 1-78, 4 figs. Jan. 1966. WR 125: 6

[State Univ. N.Y., Cortland.] A survey of the nature, extent and reasons for the posting of private lands against trespass for hunting and fishing was made during the years 1962, 1963 and 1964. The work was done chiefly in upstate New York, and a more general survey was made on Long Island because of the radically different conditions there. A summary of the history of the posting problem in the State and legislation relating to it is also given. The data indicated that 26 per cent of the area in private ownership was posted. The degree of posting was greatest in the vicinity of the large cities and related suburban areas. Of the posted parcels recorded, 3,393 (81 per cent) were posted by the actual owner, while 783 (19 per cent) were posted by second-party owners. Only 58 per cent of the parcels were legally posted, absence of names and addresses on the posters being the most frequent violation.--From abstr.

WILDLIFE--FOOD HABITS & TECHNIQUES

Severson, K. E., and M. May. FOOD PREFERENCES OF ANTELOPE AND DOMESTIC SHEEP IN WYOMING'S RED DESERT. J. Range Mgmt. 20(1): 21-25, 1 fig. Jan. 1967. WR 125: 6

[S. Dak. State Univ., Brookings.] Highlight: A food habits study, in a big sagebrush-grass type in Wyoming's Red Desert, revealed very little overlap in use of native range forage by pronghorn antelope and domestic sheep. Generally, sheep preferred grasses whereas antelope utilized shrubs.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Buckner, C. H. THE ROLE OF VERTEBRATE PREDATORS IN THE BIOLOGICAL CONTROL OF FOREST INSECTS. Ann. Rev. Entomol. 11: 449-470. 1966. [From J. Mamm. 48(1), 1967.] WR 125: 6

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

Sampson, Frank W. A REPORT...SMALL GAME HUNTERS TELL US. Mo. Conservationist 27(10): 3-5, illus. Oct. 1966. WR 125: 6

Information revealed by 13,948 resident Mo. small game hunters in questionnaires returned in 1964 and 1965. Rabbits, squirrels, quail, and dove ranked above waterfowl in hunters' preferences. Interesting hunting patterns are derived from data collected.

Smith, William M. HUNTER SUCCESS. AN ESTIMATE OF THE WILDLIFE HARVEST IN NEW JERSEY DURING 1965-66. N.J. Outdoors 17(5): 6-12. Nov. 1966. WR 125: 6

WETLANDS & WILDLIFE

Linde, Arlyn F., and Max Morehouse. TO FEED WILDLIFE...FERTILIZE GAME FOODS? Wis. Conserv. Bull. 31(6): 16-17, illus. Nov.-Dec. 1966. WR 125: 6

[Wetland Habitat Res., Horicon, Wis.] "Infertile northern wetlands might produce more wildlife if potholes and ponds were limed and fertilized to stimulate growth of the better game foods. Research is underway to check out the possibilities. Results thus far are encouraging."

Munro, William T. CHANGES IN WATERFOWL HABITAT WITH FLOODING ON THE OTTAWA RIVER. J. Wildl. Mgmt. 31(1): 197-199, 2 figs. Jan. 1967. WR 125: 6

[Canadian Wildl. Serv., Ste. Foy, Quebec.] Abstract: Changes in riparian vegetation and in waterfowl numbers were studied after a permanent 6-ft rise in the water level of the Ottawa River, Quebec. The pioneering aquatic plants

were river bulrush (Scirpus fluviatilis), floating and large-leaved pondweeds (Potamogeton natans, P. amplifolius), marsh cinquefoil (Potentilla palustris), and scarlet knotweed (Polygonum coccineum). After flooding, vegetation was less abundant in water less than 36 inches deep and more abundant in water 37-60 inches deep. Only in flooded hardwood forest was the development of vegetation after flooding influenced more by the previous vegetation type than by the depth of water. The number of breeding waterfowl increased from 1.4 to 6.5 pairs per mile.

FARMLAND & WILDLIFE

Feriancova-Masarova, Z. [THE RICE FIELDS OF THE DANUBE-LOWLANDS, AS AN EXAMPLE OF MAN'S INTERFERENCE WITH NATURE AND HIS EFFECTS ON THE TEMPORAL CHANGE IN THE BIRD FAUNA.] Biologia (Bratislava) 21: 390-394. 1966. [From Ibis 109(1), 1967. In Slovak.] WR 125: 7

Although the rice fields in Southern Slovakia were of a rather low acreage, they strongly and advantageously influenced the fauna of birds (besides other animals), and proved of great attractive value especially to waders, ducks, etc.

RANGELAND & WILDLIFE

Blair, Robert M., and E. A. Epps, Jr. DISTRIBUTION OF PROTEIN AND PHOSPHORUS IN SPRING GROWTH OF RUSTY BLACKHAW. J. Wildl. Mgmt. 31(1): 188-199, 1 fig. Jan. 1967. WR 125: 7

[Southern Forest Expt. Sta., Nacogdoches, Texas.] Abstract: Spring growth of rusty blackhaw (Viburnum rufidulum), a moderately preferred deer browse on southern ranges, contained more crude protein and phosphorus in the terminal inch of the twigs and the attached leaves than in segments 2 and 3 inches from the tip.

Mueggler, W. F. VOLES DAMAGE BIG SAGEBRUSH IN SOUTHWESTERN MONTANA. J. Range Mgmt. 20(2): 88-91, 2 figs. Mar. 1967. WR 125: 7

[Intermountain Forest & Range Expt. Sta., Bozeman, Mont.] Highlight: Extensive destruction of big sagebrush in southwestern Montana in the winter of 1963-64 is attributed to a sudden irruption of the population of voles. Such extensive sudden destruction of browse species over wide areas concerns both ranchers and game managers because it can affect production of browse and forage for several succeeding years.

Thilenius, John F., and Kenneth E. Hungerford. BROWSE USE BY CATTLE AND DEER IN NORTHERN IDAHO. J. Wildl. Mgmt. 31(1): 141-145. Jan. 1967. WR 125: 7

[FAO, c/o Resident Representative UNDP, KENYA, P.O. BOX 30218, NAIROBI, KENYA.] Abstract: White-tailed deer (Odocoileus virginianus) and cattle on the same forest range in northern Idaho utilize browse for the larger part of their food supply. Browse species used by white-tailed deer in the study area in order of importance were: garden snowberry (Symphoricarpos rivularis), redstem ceanothus (Ceanothus sanguineus), mallow ninebark (Physocarpus malvaceus), roses (Rosa gymnocarpa, R. spaldingii), birchleaf spiraea (Spiraea betulifolia), Saskatoon serviceberry (Amelanchier alnifolia), and creambush rockspiraea (Holodiscus discolor). For cattle the order of intensity of use was: garden snowberry, birchleaf spiraea, mallow ninebark, creambush rockspiraea, redstem ceanothus, Saskatoon serviceberry, and roses. Use by cattle of browse species during the summer was not detrimental to the food supply of the deer.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Jordan, James S. DEER BROWSING IN NORTHERN HARDWOODS AFTER CLEARCUTTING. EFFECT ON HEIGHT, DENSITY, AND STOCKING OF REGENERATION OF COMMERCIAL SPECIES. U.S. Forest Serv. Res. Pap. NE-57. 15 p., illus. 1967. WR 125: 8

[Northeastern Forest Expt. Sta. Wildl. Lab., Warren, Pa.] Abstract: Heavy deer browsing in clearcut northern hardwood stands can seriously reduce the height and density of commercial reproduction. These effects appear to be greatest in stems in the 3- to 5-foot height range. Where browsing is heavy, the density and stocking rates of stems above 3 feet in height may be a better indicator of the progress of stand establishment than if stems under 3 feet are included. The taller stems also appear to be a better indicator of the capability of stands to regenerate themselves.

CONTROL OF VEGETATION WITH HERBICIDES, ETC.

Lapham, Virgil T. NEW METHODS / AQUATIC WEED CONTROL IN LOUISIANA. La. Conservationist 18(11&12): 2, 19-23, illus. Nov.-Dec. 1966. WR 125: 8

Methods and notes on the chemical control by species of aquatic weeds. The weeds are grouped as follows: submersed, emersed, floating, marginal and algae.

MAMMALS--GENERAL

Caughley, Graeme. MORTALITY PATTERNS IN MAMMALS. Ecology 47(6): 906-918, 7 figs. Autumn 1966. WR 125: 8

[New Zealand Forest Serv., Rotorua, New Zealand.] Methods of obtaining life table data are outlined and the assumptions implicit in such treatments are defined. Most treatments assume a stationary age distribution, but published methods of testing the stationary nature of a single distribution are invalid. Samples from natural populations tend to be biased in the young age classes and, therefore, because it is least affected by bias, the mortality rate curve (q_x) is the most efficient life table series for comparing the pattern of mortality with age in different populations.--From abstr. Courtesy/ Paul A. Stewart.

Friedman, H. COLOUR VISION IN THE VIRGINIA OPOSSUM. Nature 213(5078): 835-836. 25 Feb. 1967. WR 125: 8

[Coll. William & Mary, Williamsburg, Va.] Didelphis virginiana shares with the European red squirrel, the pigmy goat, red deer, Nilgai antelope, Masai giraffe, common cat and the antelope ground squirrel the ability to discriminate on the basis of color.

Guthrie, R. D. FIRE MELANISM AMONG MAMMALS. Am. Midland Nat. 77(1): 227-230, 1 fig. Jan. 1967. WR 125: 8

[Univ. Alaska, College.] Abstract: It is suggested that the melanism found in the arctic ground squirrel is due to the darker individuals being favored when burnt-over areas are invaded.

Shelton, Philip Clarence. ECOLOGICAL STUDIES OF BEAVERS, WOLVES, AND MOOSE IN ISLE ROYALE NATIONAL PARK, MICHIGAN. Ph.D. thesis, Purdue Univ. 331 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 8

In 1900 none of the 3 spp. studied was known to be present on the island. No effective moose predators were present and no hunting was allowed. Moose increased to 2,000 to 3,000 by 1930 and they denuded much of the island of its shrubby vegetation. Food shortage caused repeated die-offs from then until about 1948, when timber wolves crossed from Canada and began harvesting moose. Studies made during 1958-1961 showed that at least 600 moose and 20 wolves inhabited the island and that high annual productivity of moose was approximately balanced by loss to predation. Recovery of moose browse species was noticeable. Continued observations during the present study (1960-1963) showed no essential change in wolf-moose relationships. Beavers increased to an estimated 500 to 600 by 1930, and a peak population of 1,000 to 1,300 reached

in the late 1940's was followed by a decline, which was then thought to be caused by food shortage. Evidence from this study, including the presence of adequate food supplies at active and abandoned sites, and the increase in beavers since the decline, indicated that food shortage did not cause the decrease. Epizootic tularemia, then widespread in the Great Lakes Region, may have been responsible.

Sokolov, V. E. [WATER CONTENT IN THE TISSUES OF SOME DESERT ANIMALS.] Zool. Zhur. 45(5): 776-777. 1966. [From J. Mammal. 48(1), 1967. In Russian with English summ.] WR 125: 9

MAMMALS--TECHNIQUES

Bridgwater, D., and M. Sunderland. THE CONTENTS OF DISCARDED BOTTLES AS EVIDENCE OF THE DISTRIBUTION OF SMALL MAMMALS. Naturalist (England) 898: 84-85. July-Sept. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 9

Dudzinski, M. L., and G. W. Arnold. AERIAL PHOTOGRAPHY AND STATISTICAL ANALYSIS FOR STUDYING BEHAVIOUR PATTERNS OF GRAZING ANIMALS. J. Range Mgmt. 20(2): 77-83, 5 figs. Mar. 1967. WR 125: 9

[CSIRO, Canberra, Australia.] Highlight: Measurements and their statistical analysis are suggested and tested in the study of sheep distribution in an arid part of Australia. The use of aerial photography and an electronic computer make the job possible and relatively cheap. The possibility of predicting the condition of a range from patterns of grazing behaviour is suggested.

Howard, Volney W., Jr. IDENTIFYING FECAL GROUPS BY pH ANALYSIS. J. Wildl. Mgmt. 31(1): 190-191. Jan. 1967. WR 125: 9

[Idaho Coop. Wildl. Res. Unit, Moscow.] "The highest pH reading for any of the mule deer samples was 6.38 and the lowest for any of the pronghorn samples was 6.61."

Kleinenberg, S. E., and G. A. Klevezal. [AGE DETERMINATION IN MAMMALS BY THE STRUCTURE OF TOOTH CEMENT.] Zool. Zhur. 45(5): 717-724. 1966. [From J. Mammal. 48(1), 1967. In Russian with English summ.] WR 125: 9

Lewis, Robert E. A REFLECTING MARKER FOR LOCATING TRAPS AT NIGHT. J. Mammal. 48(1): 146. Feb. 1967. WR 125: 9

[Am. Univ. Beirut, Beirut, Lebanon.] Scotch-Lite white reflecting tape wrapped about a 6 cm length of orange-painted dowel and mounted on a 25 cm length of 13 gauge galvanized wire proved an effective trap marker at night and day.

MAMMALS--FAUNAS & MANUALS

Burton, John A. NOTES ON MAMMALS OF THE LONDON AREA DURING 1963 AND 1964. London Nat. (J. London Nat. Hist. Soc.) 45: 29-34. July 1966. [From J. Mammal. 48(1), 1967.] WR 125: 9

Calaby, J. H. MAMMALS OF THE UPPER RICHMOND AND CLARENCE RIVERS, NEW SOUTH WALES. CSIRO, Div. Wildl. Res. Tech. Paper no. 10. p. 4-55, 15 figs. 1966. WR 125: 9

[CSIRO, Canberra, Australia.] An annotated list of 45 spp. of indigenous mammals and 7 spp. of wild introduced mammals follows an account of environmental factors and an historical survey of previous studies of the area.

MAMMALS--FAUNAS & MANUALS--Continued

Mansfield, Arthur W. THE MAMMALS OF SABLE ISLAND. Canadian Field-Nat. 81 (1): 40-49, 7 figs. Jan.-Mar. 1967. WR 125: 10
[Fisheries Res. Board Canada, Ste. Anne de Bellevue, Quebec.] Annotated list of 9 spp. of mammals found on this Nova Scotian Island.

Peterson, Richard S. THE LAND MAMMALS OF UNALASKA ISLAND: PRESENT STATUS AND ZOOGEOGRAPHY. J. Mammal. 48(1): 119-129, 1 fig. Feb. 1967. WR 125: 10
[Univ. Calif., Santa Cruz.] Abstract: Reviews of early records and recent field studies suggest that only three native mammals, excepting man, occur on Unalaska Island, Alaska. The improverished mammalian fauna is evidence that the Aleutian Islands west of Unimak Pass have been isolated from the mainland since the end of the last Würm-Wisconsin glaciation. No evidence could be found of a shrew, Sorex hydrodromus, once reported from Unalaska.

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Tanner, James T. EFFECTS OF POPULATION DENSITY ON GROWTH RATES OF ANIMAL POPULATIONS. Ecology 47(5): 733-745, 1 fig. Late Summer 1966. WR 125: 10
[Univ. Tenn., Knoxville.] "The primary conclusion is that in most animal species a population's growth rate is a decreasing function of density."

MAMMALS--PARASITES & DISEASES

Allred, Dorald M., and D Elden Beck. MITES OF UTAH MAMMALS. Brigham Young Univ. Sci. Bull., Biol. Ser. 8(1). iv + 123 p., 615 figs. Oct. 1966. WR 125: 10
[Brigham Young Univ., Provo, Utah.] One hundred eleven species of 34 genera of mites are listed as a result of examining more than 9000 small mammals representing 94 spp. of 51 genera supplemented by other previously listed records for Utah.

Corbet, G. B. RECORDS OF MAMMALS AND THEIR ECTOPARASITES FROM FOUR SCOTTISH ISLANDS. Glasgow Nat. 18(8): 426-434. June 1966. [From J. Mammal. 48(1), 1967.] WR 125: 10

SHREWS, MOLES, BATS

Adamczewska-Andrzejewska, Krystyna A. VARIATIONS IN THE HARDNESS OF THE TEETH OF SOREX ARANEUS LINNAEUS, 1758. Acta Theriologica 11(1-4): 55-69, 2 figs. 30 Oct. 1966. In English with Polish summ. WR 125: 10
[Warsaw Univ., Warsaw, Poland.]

Baker, Robt. J., and Claud M. Ward. DISTRIBUTION OF BATS IN SOUTHEASTERN ARKANSAS. J. Mammal. 48(1): 130-132. Feb. 1967. WR 125: 10
[Univ. Ariz., Tucson.]

Burton, John A. THE DISTRIBUTION OF WEASEL, STOAT, COMMON SHREW, ROE DEER, WATER SHREW AND MOLE IN THE LONDON AREA. London Nat. (J. London Nat. Hist. Soc.) 45: 35-42. July 1966. [From J. Mammal. 48(1), 1967.] WR 125: 10

Carter, Dilford C., Ronald H. Pine, and William B. Davis. NOTES ON MIDDLE AMERICAN BATS. Southwestern Nat. 11(4): 488-499. 31 Dec. 1966. WR 125: 10
[Texas A & M Univ., College Station.] Twenty-nine species of bats that are either rare in collections or for which noteworthy records of range extension are available are discussed.--From abstr.

Cope, James B., and Stephen R. Humphrey. HOMING EXPERIMENTS WITH THE EVENING BAT, NYCTICEIUS HUMERALIS. J. Mammal. 48(1): 136. Feb. 1967. WR 125: 11
[Joseph Moore Museum, Earlham Coll., Richmond, Ind.]

Dapson, Richard Wayne. GROWTH, AGE STRUCTURE AND REPRODUCTION IN A POST-JUVENILE POPULATION OF SHORT-TAILED SHREWS (BLARINA BREVICAUDA). Ph.D. thesis, Cornell Univ. 59 p. 1966. [From Dissertation Abstr. 27(5B), 1966.] WR 125: 11

Davis, Wayne H., Madison J. Cawein, Marion D. Hassell, and Emma J. Lappat. WINTER AND SUMMER CIRCULATORY CHANGES IN REFRIGERATED AND ACTIVE, MYOTIS LUCIFUGUS. J. Mammal. 48(1): 132-134. Feb. 1967. WR 125: 11
[Univ. Ky., Lexington.]

Herreid, Clyde F., II. TEMPERATURE REGULATION, TEMPERATURE PREFERENCE AND TOLERANCE, AND METABOLISM OF YOUNG AND ADULT FREE-TAILED BATS. Physiol. Zoöl. 40(1): 1-22, 7 figs. Jan. 1967. WR 125: 11
[Duke Univ., Durham, N.C.] "Tadarida brasiliensis mexicana."

Jones, Clyde. GROWTH, DEVELOPMENT, AND WING LOADING IN THE EVENING BAT, NYCTICEIUS HUMERALIS (RAFINESQUE). J. Mammal. 48(1): 1-19, 9 figs. Feb. 1967. WR 125: 11
[Tulane Univ., New Orleans, La.] Abstract: Selected aspects of growth and development of young evening bats are presented and summarized. In addition, information on wing loading and development of flight in known-age animals is given. Data regarding growth, development, and wing loading of Nycticeius humeralis and information that is available for some other species of bats are compared and discussed.

Jones, J. Knox, Jr. BATS FROM GUATEMALA. Univ. Kans. Publ., Museum Nat. Hist. 16(5): 439-472. 18 Apr. 1966. WR 125: 11
"Fifty-six species of bats are treated in this report but as many as 100 species may eventually be found to occur in Guatemala."

Kowalska-Dyrcz, Alina. A COMPARATIVE STUDY OF THE MALE GENITAL TRACT IN SOME SPECIES OF SHREWS. Acta Theriologica 11(1-4): 71-127, 2 figs. + 8 pls. 30 Oct. 1966. In English with Polish summ. WR 125: 11

Licht, Paul, and Philip Leitner. BEHAVIORAL RESPONSES TO HIGH TEMPERATURES IN THREE SPECIES OF CALIFORNIA BATS. J. Mammal. 48(1): 52-61, 2 figs. Feb. 1967. WR 125: 11
[Univ. Calif., Berkeley.] Abstract: Myotis yumanensis, Antrozous pallidus, and Tadarida brasiliensis mexicana, in the loft of a large barn, were exposed to frequent heat stress during the summer. However, while temperatures near 50° C commonly occurred in the roost during the day, thermal gradients were steep, and the full impact of the heat stress was avoided by slight movements. Most bats began to move when ambient temperatures approached 40° C. Congregations of bats on beams or in crevices near the ceiling gradually dispersed downward while increasing the spacing between individuals. On very hot days bats usually abandoned positions near the ceiling and sought refuge in cooler parts of the loft. There appeared to be a compromise between avoidance of high temperatures and preference for high or sheltered roosts. Consequently, bats were voluntarily exposed to relatively high temperatures (40° C or above) for many hours during the day, despite the availability of cooler temperatures in the loft. Tadarida and Antrozous tended to face higher temperatures than Myotis because of their greater reluctance to use the cooler, exposed roosting sites. Interspecific differences in the avoidance of high temperature were also evident in laboratory thermal gradients, Tadarida being the most tolerant to heat and Antrozous the least.

Pirlot, P., and J. R. León. CHIROPTÈRES DE L'EST DU VENEZUELA. I. RÉGION DE CUMANA ET ÎLE DE MARGARITA. [BATS OF EASTERN VENEZUELA. I. REGION OF CUMANA (SUCRE) AND ISLA DE MARGARITA.] Mammalia 29(3): 367-374. Sept. 1965. [From J. Mammal. 48(1), 1967. In French with English and Spanish summ.] WR 125: 12

Pirlot, P. CHIROPTÈRES DE L'EST DU VENEZUELA. II. DELTA DE L'ORÉNOQUE. [BATS OF EASTERN VENEZUELA. II. ORINOCO DELTA.] Mammalia 29(3): 375-389. Sept. 1965. [From J. Mammal. 48(1), 1967. In French with English and Spanish summ.] WR 125: 12

Rood, J. P. OBSERVATIONS ON THE HOME RANGE AND ACTIVITY OF THE SCILLY SHREW. Mammalia 29(4): 507-516. Dec. 1965. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 12

Ross, Anthony. ECOLOGICAL ASPECTS OF THE FOOD HABITS OF SOME INSECTIVOROUS BATS. Ph.D. thesis, Univ. Ariz. 109 p. 1964. [From Dissertation Abstr. 25 (4), 1964.] WR 125: 12

Suthers, Roderick A. COMPARATIVE ECHOLOCATION BY FISHING BATS. J. Mammal. 48(1): 79-87, 4 figs. Feb. 1967. WR 125: 12

[Ind. Univ., Bloomington.] Abstract: The acoustic orientation of two species of fish-catching bats was studied as they negotiated a row of strings or fine wires extending across their flight path. Orientation sounds of Pizonyx vivesi consisted of a steep descending FM sweep lasting about 3 msec. Noctilio leporinus used 8 to 10 msec pulses composed of an initial nearly constant frequency portion followed by a descending frequency modulation. The echolocation of small wires by N. leporinus differed from that of surface fish in that during wire avoidance no nearly constant frequency or entirely FM pulses were emitted, nor was the pulse duration markedly shortened as the barrier was approached. There was extensive temporal overlap at the animal's ear of returning echoes with the emitted cries when the bat was near the barrier--a strong contrast to the apparent careful minimization of such overlap during feeding maneuvers. Noctilio increased its average pulse duration about 2 msec when confronted with a barrier of 0.21 mm, as opposed to 0.51 mm, diameter wires. Pizonyx detected these wires well before pulse-echo overlap began, but at a shorter range than did N. leporinus, suggesting the latter species may have a longer effective range of echolocation.

Tamsitt, J. R. NICHE AND SPECIES DIVERSITY IN NEOTROPICAL BATS. Nature 213(5078): 784-786. 25 Feb. 1967. WR 125: 12

[School of Med., San Juan, Puerto Rico.] "Data presented here for bats correlate well with data for birds and indicate that multiple occupation of niches or niche reduction may be characteristic of coexistent species in regions of high climatic stability where a constant food supply and abundance of roosting or nesting sites are available. The data suggest that habitat coexistent bat species of comparable sizes may have similar ecological requirements, but they do not explain why different sized bat species may also have similar ecological requirements."

van Heerdt, P. F., and J. W. Sluiter. NOTES ON THE DISTRIBUTION AND BEHAVIOUR OF THE NOCTULE BAT (NYCTALUS NOCTULA) IN THE NETHERLANDS. Mammalia 29 (4): 463-477. Dec. 1965. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 12

Casteel, David A. TIMING OF OVULATION AND IMPLANTATION IN THE COTTONTAIL RABBIT. J. Wildl. Mgmt. 31(1): 194-197. Jan. 1967. WR 125: 13
[Ill. Nat. Hist. Surv., Urbana.] Abstract: Reproductive behavior of individually marked cottontail rabbits (Sylvilagus floridanus) confined in large pens was studied in the spring and summer of 1963. The author observed coitus, which immediately follows parturition, and thus determined the timing of ovulation and implantation. Ovaries of postparturient females were either collected 8-18 hours after copulation for histological treatment, or the females were subjected to one or more laparotomies and their reproductive status determined by macroscopic examination of ovaries and uteri. The findings of this study indicate that cottontail rabbits ovulate between 10 and 11 hours postcoitus and that implantation is grossly visible by the 8th day postcoitus. The earliest time at which implantation sites are visible was not determined.

Dawson, Terence, and Knut Schmidt-Nielsen. EFFECT OF THERMAL CONDUCTANCE ON WATER ECONOMY IN THE ANTELOPE JACK RABBIT, LEPUS ALLENI. J. Cellular Physiol. 67(3): 463-472. June 1966. [From J. Mammal. 48(1), 1967.] WR 125: 13

Edwards, William R., and Lee Eberhardt. ESTIMATING COTTONTAIL ABUNDANCE FROM LIVETRAPPING DATA. J. Wildl. Mgmt. 31(1): 87-96. Jan. 1967. WR 125: 13
[Ill. Nat. Hist. Surv., Urbana.] Abstract: Estimates of cottontail (Sylvilagus floridanus) abundance were derived from several estimating equations applied to data obtained by livetrapping a confined population of known size on the Olentangy Wildlife Experiment Station, Delaware County, Ohio, in 1961. The same methods of estimation were also applied to field data obtained in 1963 at Robert Allerton Park, Monticello, Illinois. Findings suggested that probability of capture differed among members of the populations and, perhaps, changed after capture. The multiple census methods published in 1938 by Schnabel and in 1943 by Schumacher and Eschmeyer yielded estimates well below the numbers of rabbits in the populations. A method which utilized the frequency of capture, based on techniques of maximum likelihood estimation (MLE) for the Poisson distribution, also apparently tended to underestimate rabbit abundance. A simplified equation derived for MLE for the geometric distribution produced useful estimates and is suggested for estimating rabbit numbers from data obtained by livetrapping. Intercepts of linear regression lines fitted to logarithmic plots of data on frequency of capture also appeared to yield adequate approximations of the numbers of rabbits in the zero (uncaptured) class. The mathematical bases for using these methods are subject to limitations which are discussed.

Flux, J. E. C. TIMING OF THE BREEDING SEASON IN THE HARE, LEPUS EUROPAEUS PALLAS, AND RABBIT, ORYCTOLAGUS CUNICULUS (L.). Mammalia 29(4): 557-562. Dec. 1965. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 13

Johnson, Donald R., and Marvin H. Maxwell. ENERGY DYNAMICS OF COLORADO PIKAS. Ecology 47(6): 1059-1061, 4 figs. Autumn 1966. WR 125: 13
[Fort Lewis Coll., Durango, Colo.] Abstract: Like other lagomorphs, pikas (Ochotona princeps) reingest fecal matter which is high in protein content and energy value (5.2 kcal/g). The plant food stored in haypiles is low in caloric content (4.5 kcal/g) but some populations utilize energy-rich aspen bark (5.2 kcal/g) during the winter and spring months. The daily energy intake of a non-gravid, non-lactating, adult pika (171 g) is estimated at 54.8 kcal of which 68% is assimilated. Food intake, and perhaps feces reingestion, is increased during pregnancy and lactation.--Courtesy/ Paul A. Stewart.

Mead-Briggs, A. R., and A. M. Hughes. RECORDS OF MITES AND LICE FROM WILD RABBITS COLLECTED THROUGHOUT GREAT BRITAIN. Ann. Magazine Nat. Hist., ser. 13, 8(96): 695-708. Dec. 1965. [From J. Mammal. 48(1), 1967.] WR 125: 13

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Myers, K. MORPHOLOGICAL CHANGES IN THE ADRENAL GLANDS OF WILD RABBITS. Nature 213(5072): 147-150, 9 figs. 14 Jan. 1967. WR 125: 14
[CSIRO, Canberra, Australia.] It is suggested from the observations described that the adrenal gland is a sensitive indicator of several physiological conditions in Oryctolagus cuniculus and is a valuable organ for the ecologist to use in population analysis.

Sych, Lucjan. CORRELATION OF TOOTH MEASUREMENTS IN LEPORIDS. ON THE SIGNIFICANCE OF THE COEFFICIENT OF CORRELATION IN THE STUDIES OF MICRO-EVOLUTION. Acta Theriologica 11(1-4): 41-54, 20 figs. 30 Oct. 1966. In English with Polish summ. WR 125: 14
[Polish Acad. Sci., Inst. Systematic Zool., Sławkowska 17, Cracow, Poland.]

RODENTS--MISCELLANEOUS

Barrett, Gary W., and Rezneat M. Darnell. EFFECTS OF DIMETHOATE ON SMALL MAMMAL POPULATIONS. Am. Midland Nat. 77(1): 164-175, 3 figs. Jan. 1967. WR 125: 14
[Univ. Ga., Athens.] Abstract: The effects of an insecticide, dimethoate, on small mammal populations comprising three species, the prairie vole (Microtus ochrogaster), the house mouse (Mus musculus), and the prairie deer mouse (Peromyscus maniculatus), were investigated by means of live trapping grids in an Indiana clover field. House mice decreased in numbers after spraying while prairie voles increased and deer mice remained at the same density level. Density of insects declined greatly after spraying, but no evidence was found to indicate that the insecticide caused direct mortality in any of the mammal species or had any additional effect on the habitat. It is postulated that the abrupt decline in insects was related to a drift in the mammal population composition from an omnivore to a herbivore species.

Buchanan, O. Marcus, and Thomas R. Howell. OBSERVATIONS ON THE NATURAL HISTORY OF THE THICK-SPINED RAT, HOPLOMYS GYMNURUS, IN NICARAGUA. Ann. Magazine Nat. Hist., ser. 13, 8: 549-559. Sept. 1965. [From J. Mammal. 48(1), 1967.] WR 125: 14

Bujalska, Gabriela, and Lech Ryszkowski. ESTIMATION OF THE REPRODUCTION OF THE BANK VOLE UNDER FIELD CONDITIONS. Acta Theriologica 11(14): 351-361, 2 figs. 15 Dec. 1966. In English with Polish summ. WR 125: 14
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Bullard, Robert W., and James Kollias. FUNCTIONAL CHARACTERISTICS OF TWO HIGH-ALTITUDE MAMMALS. Fed. Proc., Fed. Am. Soc. Exp. Biol. 25(4): 1288-1292. July-Aug. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 14
"Citellus lateralis and Rattus norvegicus."

Bussy, J. HIBERNATION DU LEROT (ELIOMYS QUERCINUS) AU COURS DE L'HIVER 1965-1966. [HIBERNATION OF ELIOMYS QUERCINUS DURING THE WINTER OF 1965-1966.] Bull. Men. Soc. Linn. Lyon 6: 306-309. June 1966. [From J. Mammal. 48(1), 1967. In French.] WR 125: 14

Dunaway, P. B., J. A. Payne, L. L. Lewis, and J. D. Story. INCIDENCE AND EFFECTS OF CUTEREBRA IN PEROMYSCUS. J. Mammal. 48(1): 38-51. Feb. 1967. WR 125: 14
[Oak Ridge Natl. Lab., Oak Ridge, Tenn.] Abstract: Peromyscus leucopus is the favored host for Cuterebra angustifrons on the ABC Reservation near Oak Ridge, Tennessee. Peromyscus nuttalli is a host of C. angustifrons also, but no other cricetid (5 species, greater than 4000 captures) was infested. Percentages of infestation in P. leucopus during 1958-1964 ranged from 19 to 33% per year; the overall average per year was 25%. In general, the infestation period in P. leucopus is June-December, the greatest percentages occurring in summer. Infested mice were found in certain nonforested areas, as well as in forested areas. Eighty-one per cent of the mice carried one bot, 16% had two bots and 3% had three bots; 87% of the larvae were located in the inguinal

region. There was no difference in percentage of infestation between sexes. Erythrocyte count, hematocrit percentage and hemoglobin concentration were consistently lower in infested mice, and total leucocyte number was greater. The infestation period for P. leucopus in this area is about 3 months longer than in southern Canada and northern U.S. Consequently, hematological effects caused by Cuterebra myiasis are present for a considerably longer time in P. leucopus populations in this area than in the areas farther north.

Hamar, Martin, Viorica Simonescu, and Felicia Theiss. BIOMETRISCHE UND ZOOGEOGRAPHISCHE UNTERSUCHUNGEN DER GATTUNG APODEMUS (KAUP, 1829) IN DER SOZIALISTISCHEN REPUBLIK RUMÄNIEN. [BIOMETRICAL AND GEOGRAPHICAL INVESTIGATIONS OF APODEMUS (KAUP, 1829) IN ROMANIAN SOCIALIST REPUBLIC.] Acta Theriologica 11(1-4): 1-40, 20 figs. + 4 pls. 30 Oct. 1966. In German with Polish summ. WR 125: 15
[Zentrales Inst. für Landwirtschaftsforschung, Bucarest, Romania.]

Howard, Walter E., and Ronald E. Cole. OLFACTION IN SEED DETECTION BY DEER MICE. J. Mammal. 48(1): 147-150. Feb. 1967. WR 125: 15
[Univ. Calif., Davis.]

Johanningsmeier, Arthur George. STUDIES ON ENERGY AND MATERIALS UTILIZATION IN MICROTUS PENNSYLVANICUS UNDER FIELD AND LABORATORY CONDITIONS. Ph.D. thesis, Purdue Univ. 264 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 15

Magidson, E., and D. F. Hoffmeister. AGE-VARIATION IN THE CACTUS MOUSE, PEROMYSCUS EREMICUS. Mammalia 29(4): 614-617. Dec. 1965. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 15

Maurer, Frank W., Jr. PROLONGING LACTATION IN THE MEADOW VOLE. J. Mammal. 48(1): 135-136. Feb. 1967. WR 125: 15
[N.Y. Coop. Wildl. Res. Unit, Ithaca.]

McNab, Brian K. THE METABOLISM OF FOSSORIAL RODENTS: A STUDY OF CONVERGENCE. Ecology 47(5): 712-733, 19 figs. Late Summer 1966. WR 125: 15
[Univ. Fla., Gainesville.] Temperature regulation and rate of metabolism were studied in five species: Geomys pinetis, Spalax leucodon, Tachyoryctes splendens, Heterocephalus glaber, and Heliophobius kapeti. The burrows of these rodents are in well-drained soils of poor water-holding capacity. Burrow atmospheres have an oxygen concentration of 15 to 20%, a carbon dioxide concentration of 0.5 to 2.0%, and limited temperature fluctuations; they are saturated with water vapor. Body temperatures are somewhat low (35 to 37°C) in four species, temperature regulation is good in these species at ambient temperatures down to 5 or 10°C. Heterocephalus, however, has a much lower body temperature (about 32°C) and the poorest capacity for thermoregulation of any known mammal. Fossorial rodents have low basal rates of metabolism, high conductances, and high ranges of thermoneutrality. Lethal ambient temperatures are inversely proportional to the normal levels of body temperature. Tachyoryctes and Heliophobius use forced evaporative cooling for emergency thermoregulation, in spite of the saturated burrow atmosphere. Heterocephalus facilitates heat loss during heat stress by increasing peripheral circulation over its naked body; Geomys does this by increasing the circulation to its naked tail and, possibly, naked feet. Geomys may lose up to 30% of its heat production via its tail. As a result of these modifications, the lethal ambient temperature is proportional to the mean burrow temperature.--From abstr. Courtesy/ Paul A. Stewart.

Medway, Lord. OBSERVATIONS ON BREEDING OF THE PENCIL-TAILED TREE MOUSE, CHIROPODOMYS GLIROIDES. J. Mammal. 48(1): 20-26, 2 figs. Feb. 1967. WR 125: 16
[Univ. Malaya, Kuala Lumpur.] Abstract: Observations on two captive pencil-tailed tree mice demonstrated cyclic changes in the histology of the vaginal epithelium similar to those occurring in the estrous cycle of the laboratory rat. The minimum interval between successive incidences of estrus was 7 days, but variable periods of anestrus frequently intervened. One gestation period was 19-21 days. The mean weights of adult females did not show significant change at different stages of the reproductive cycle. The newborn young were hairless and blind. They were weaned at about 17 days of age, and reached adult size and apparent maturity within 100 days. Laboratory observations are correlated with records of pregnancies in wild females, and it is suggested that the variable period of anestrus could be the basis for seasonal fluctuations in breeding activity.

Mitchell, Ormond G. THE SUPPOSED ROLE OF THE GERBIL VENTRAL GLAND IN REPRODUCTION. J. Mammal. 48(1): 142. Feb. 1967. WR 125: 16
[N.Y. Univ., New York, N.Y.] In Meriones unguiculatus.

Morhardt, J. E., and J. W. Hudson. DAILY TORPOR INDUCED IN WHITE-FOOTED MICE (PEROMYSCUS SPP.) BY STARVATION. Nature 212(5066): 1046-1047, 1 fig. 3 Dec. 1966. WR 125: 16
[Rice Univ., Houston, Texas.]

Patton, James L. CHROMOSOME STUDIES OF CERTAIN POCKET MICE, GENUS PEROGNATHUS (RODENTIA: HETEROMYIDAE). J. Mammal. 48(1): 27-37, 7 figs. Feb. 1967. WR 125: 16
[Univ. Ariz., Tucson.]

Ralls, Katherine. AUDITORY SENSITIVITY IN MICE: PEROMYSCUS AND MUS MUSCULUS. Animal Behaviour 15(1): 123-128, 6 figs. Jan. 1967. WR 125: 16
[Univ. Calif., Berkeley.] Summary: Auditory evoked potentials from the posterior colliculus were used to measure auditory thresholds in Peromyscus leucopus, P. boylii, feral Mus musculus and strain BALB/cJ and DBA/2J laboratory mice. Moderate Nembutal anaesthesia had no consistent effect on the shape, amplitude, latency or threshold of the evoked potentials. Peromyscus boylii and young P. leucopus appear to have a high frequency sensitivity similar to that of the bat Myotis lucifugus up to about 70 kHz. The feral Mus musculus were more sensitive to higher frequencies than any of the laboratory mice tested, having lowest thresholds at about 20 kHz. The high frequency sensitivity of strain DBA/2J mice declines rapidly with age, which probably explains their loss of audiogenic seizure susceptibility with age. Mice of strain BALB/cJ were most sensitive to frequencies of about 12 kHz. Their high frequency sensitivity tends to decline with age, but not as rapidly or consistently as in strain DBA/2J mice. The high incidence of sensory deficits in laboratory mice, and the difficulty of detecting them, can confound the results of behavioral studies on inbred laboratory mouse strains.

Raun, Gerald G. RECTAL BODY TEMPERATURES OF THE WOODRAT (NEOTOMA MICROPUS) IN SOUTHERN TEXAS. Southwestern Nat. 11(4): 467-475, 2 figs. 31 Dec. 1966. WR 125: 16
[North Texas State Univ., Denton.]

Smith, Michael H., and Wayne E. Criss. EFFECTS OF SOCIAL BEHAVIOR, SEX, AND AMBIENT TEMPERATURE ON THE ENDOGENOUS DIEL BODY TEMPERATURE CYCLE OF THE OLD FIELD MOUSE, PEROMYSCUS POLIONOTUS. Physiol. Zool. 40(1): 31-39, 3 figs. Jan. 1967. WR 125: 16
[Univ. Ga., Athens.]

Tanaka, Ryo. A POSSIBLE DISCREPANCY BETWEEN THE EXPOSED AND THE WHOLE POPULATION DEPENDING ON RANGE-SIZE AND TRAP-SPACING IN VOLE POPULATIONS. Res. Population Ecol. 8(2): 93-101, 2 figs. Dec. 1966. In English with Japanese summ. WR 125: 17
[Kochi Women's Univ., Kochi, Japan.] "Clethrionomys rufocanus."

Ueda, Meiichi, Sukesaburo Higuchi, Bunkichi Igarashi, Mitsuru Maeda, Tsutomu Kuwahata, Kashio Ôta, Hisashi Abe, Yûzô Fujimaki, Jinrô Fujikura, and Tomohiko Takayasu. [HISTORICAL REVIEW OF STUDIES ON THE BEDFORD'S RED-BACKED VOLE, CLETHRIONOMYS RUFOCANUS BEDFORDIAE (THOMAS).] Bull. Govt. Forest Expt. Sta. no. 191: 1-100, 17 figs. Aug. 1966. In Japanese. WR 125: 17
With a bibliography of 509 titles.

Vaughan, Terry A. FOOD HABITS OF THE NORTHERN POCKET GOPHER ON SHORTGRASS PRAIRIE. Am. Midland Nat. 77(1): 176-189, 4 figs. Jan. 1967. WR 125: 17
[Colo. State Univ. Agr. Expt. Sta., Fort Collins.] Abstract: The food habits of Thomomys talpoides were studied in shortgrass prairie in north central Colorado. The following six plants comprised 88% of the yearly diet: Opuntia polyacantha (49.9%), Stipa comata (12.1%), Sphaeralcea coccinea (10.3%), Agropyron smithii (10.1%), Bouteloua gracilis (3%), Atriplex canescens (2.5%). The yearly diet consisted of approximately 67% forbs, 30% grasses, and 3% shrubs; approximately 70% of the material eaten was aboveground parts of plants (stems and leaves). Opuntia was by far the most important food. It was eaten in all seasons, but was utilized most heavily in midwinter, when it comprised 79% of the diet and probably served most importantly as a source of water. In laboratory experiments T. talpoides thrived, using Opuntia as the only source of water. Certain ecological relationships resulting from the dependence on Opuntia by pocket gophers are discussed.

RATTUS & MUS

Reimer, J. D., and M. L. Petras. BREEDING STRUCTURE OF THE HOUSE MOUSE, MUS MUSCULUS, IN A POPULATION CAGE. J. Mammal. 48(1): 88-99, 7 figs. Feb. 1967. WR 125: 17
[Univ. Windsor, Windsor, Ontario, Canada.] Abstract: House mice (Mus musculus), released in a population cage consisting of a series of nest boxes connected by narrow runways, formed small breeding units or demes in each of four runs. Generally, each deme was composed of a "dominant" male, several females and several "subordinate" males. The formation of these breeding units appears to be primarily the result of male territoriality. However, females were also found to contribute to the maintenance of such units. Once formed, demes remained stable over a considerable period of time in spite of factors such as high animal density in some territories. In older demes "dominant" males were replaced by their offspring. Interdemic migration, once demes were established, was rare and appeared to be possible only through females. Attempts to introduce mice into established demes of five to eight animals failed unless at least four mice were introduced simultaneously. The existence of stable demes may explain a number of enigmatic situations encountered in natural populations of Mus musculus.

SCIURIDS

Bakko, Eugene B., and Larry N. Brown. BREEDING BIOLOGY OF THE WHITE-TAILED PRAIRIE DOG, CYNOMYS LEUCURUS, IN WYOMING. J. Mammal. 48(1): 100-112, 3 figs. Feb. 1967. WR 125: 17
[St. Olaf Coll., Northfield, Minn.]

Barkalow, F. S., Jr. A RECORD GRAY SQUIRREL LITTER. J. Mammal. 48(1): 141. Feb. 1967. WR 125: 17
[N.C. State Univ., Raleigh.] A litter of 8 reported for Montgomery County, N.C.

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Bridgwater, Donald D. LABORATORY BREEDING, EARLY GROWTH DEVELOPMENT AND BEHAVIOR OF CITELLUS TRIDECEMLINEATUS (RODENTIA). Southwestern Nat. 11(3): 325-337, 4 figs. 20 Oct. 1966. WR 125: 18

[Oklahoma City Zoo, Oklahoma City.] Abstract: Experiments were conducted to breed thirteen-lined ground squirrels, Citellus (= Spermophilus) tridecemlineatus in the laboratory and determine the age of emergence from the litter burrow for young squirrels. Post-natal growth curves for body weight, body length, tail length, and hindfoot length were established. The age of occurrence for certain behavioral and developmental phenomena were recorded. Four matings established a gestation period of 27-28 days. Age of emergence from the litter burrow was 32 days. Primary growth of the tail, hindfoot and body was complete by the tenth week, while weight increments continued until hibernation. Five instances of delayed or secondary parturition were recorded.

Desha, Paul G. OBSERVATIONS ON THE BURROW UTILIZATION OF THE THIRTEEN-LINED GROUND SQUIRREL. Southwestern Nat. 11(3): 408-410. 20 Oct. 1966. WR 125: 18

[Arlington State Coll., Arlington, Texas.] "Citellus tridecemlineatus."

Doebel, John H. RADIOTRACKING MR. BUSHYTAIL. Va. Wildl. 28(3): 4-5, illus. Mar. 1967. WR 125: 18

[Va. Polytech. Inst., Blacksburg.] Well-illustrated popular account of the use of biotelemetry to determine the home range of Sciurus carolinensis.

Guthrie, Donald R., J. Clark Osborne, and Henry S. Mosby. PHYSIOLOGICAL CHANGES ASSOCIATED WITH SHOCK IN CONFINED GRAY SQUIRRELS. J. Wildl. Mgmt. 31 (1): 102-108. Jan. 1967. WR 125: 18

[Univ. British Columbia, Vancouver.] Abstract: Shock resulting from confinement of certain individual gray squirrels (Sciurus carolinensis) in live-traps was characterized by convulsions, and unconsciousness, leading to death. Confined-comatose squirrels (in shock) were compared physiologically to confined-stressed squirrels and to an unstressed control group. Physiological changes in the confined-comatose animals included severe hypoglycemia, slight leukopenia, a reduction in adrenal glucocorticoids, and elevated packed-cell volume.

Nixon, Charles M., William R. Edwards, and Lee Eberhardt. ESTIMATING SQUIRREL ABUNDANCE FROM LIVETRAPPING DATA. J. Wildl. Mgmt. 31(1): 96-101. Jan. 1967. WR 125: 18

[Ohio Div. Wildl., New Marshfield.] Abstract: Estimates of squirrel (Sciurus carolinensis and S. niger) abundance were derived from several methods of population estimation applied to data obtained by livetrapping squirrels on the Waterloo Wildlife Experiment Station in southeastern Ohio, 1962 and 1963. The frequency of capture of marked squirrels suggests that the probability of capture is not the same for all squirrels; as a result, a trapped sample typically contains a disproportionately high number of recaptures. Thus, the multiple census methods of Schnabel and of Schumacher produced estimates lower than the number of animals considered to comprise the population. Frequency of capture approximated the geometric distribution. The simplified equation for maximum likelihood estimation (MLE) for the geometric distribution, presented in 1967 by Edwards and Eberhardt, appeared useful for estimating squirrel abundance from livetrapping data, although estimates tended to be somewhat high. The intercept of a line fitted to a logarithmic plot of data on the frequency of capture, using linear regression techniques, gave what appeared to be adequate approximations of the numbers of squirrels in the zero (uncaptured) class. Although estimates derived from MLE for the geometric distribution and from linear regression are based on assumptions not strictly fulfilled by the data, these methods should prove useful until better techniques are developed. MLE for the Poisson distribution appeared to underestimate the zero class. Similarities in results of evaluations of techniques of population estimation for squirrels and rabbits suggest that further research on population estimation may provide findings applicable to a variety of species.

SCIURIDS--Continued

Sheppard, David Henry. ECOLOGY OF THE CHIPMUNKS, EUTAMIAS AMOENUS LUTEIVENTRIS (ALLEN) AND E. MINIMUS OREOCETES MERRIAM. Ph.D. thesis, Univ. Saskatchewan. 255 p. 1965. [From Dissertation Abstr. 27(5B), 1966.] WR 125: 19

MUSKRAT & NUTRIA

Aliev, F. F. EXTENT AND CAUSES OF NUTRIA MORTALITY IN THE WATER BODIES OF THE SOUTHERN U.S.S.R. Mammalia 29(3): 435-437. Sept. 1965. [From J. Mammal. 48(1), 1967.] WR 125: 19

Erickson, Howard R. MUSKRAT BURROWING DAMAGE AND CONTROL PROCEDURES IN NEW YORK, PENNSYLVANIA AND MARYLAND. N.Y. Fish & Game J. 13(2): 176-187. July 1966. WR 125: 19

[Towson State Coll., Towson, Md.] Abstract: Data on muskrat damage and control techniques were obtained through studying over 550 small impoundments in New York, Pennsylvania and Maryland. Pond leakage occurred infrequently and generally was restricted to impoundments with minimal breast widths. Impairment of physical appearance was common, especially on ponds that had narrow freeboards and shallow banks. The extent and seriousness of pond damage was highly correlated with pond age and the length of time a muskrat population had been present. Ponds built to Soil Conservation Service specifications or the equivalent seldom were severely damaged even when a population had been present for years. Burrowing activity was most pronounced in March-May following the spring movement period. Mowing of pond banks aids discovery of this activity. Need for control and the type of control procedure to be used depends on the location and structural nature of the pond and on the size of the muskrat population. Rip-rapping, live trapping, steel trapping, multiple-catch trapping, poisoning, shooting, gassing and manipulation of water levels may be used successfully. Rip-rapping, although expensive, gave the best, relatively permanent protection. The poisoning technique developed in the study yielded the cheapest, effective control results, but it has legal limitations.

Ferrigno, Fred. FIRST IN FUR VALUE / MUSKRATS AND THEIR MANAGEMENT. PART I: DISTRIBUTION, HABITS, AND GENERAL INFORMATION. N.J. Outdoors 17(7): 2-9, illus. Jan. 1967. WR 125: 19

Physical characteristics, economics, distribution, homes, food, production, sex and age, color, weight and placental scars of Ondatra zebethicus in N.J. An even sex ratio is indicated for immature muskrats but trapping yielded only 197 ♀♀ to 427 ♂♂ for adults.

Ferrigno, Fred. FIRST IN FUR VALUE / MUSKRATS AND THEIR MANAGEMENT. PART II: RESEARCH, MANAGEMENT, AND INFLUENCES. N.J. Outdoors 17(8): 13-19, illus. Feb. 1967. WR 125: 19

Recent decline, habitat destruction, predation, pesticides and droughts are discussed. "It is this writer's personal opinion that adverse or abnormal climate is an important limiting factor in population growth since it has essential bearing year-long on salinity, pH, dissolved oxygen, water tables, and food plants.... Overall, it is believed that a resumption of normal rainfall for several years will solve many of our present low muskrat population problems."

Reimov, R. [AGE AND SEX VARIABILITY OF THE COMPLEX OF EXTERIOR-INTERIOR CHARACTERS IN YOUNG ONDATRAE OF THE KARAKALPAK POPULATION.] Zool. Zhur. 45(5): 730-740. 1966. [From J. Mammal. 48(1), 1967. In Russian with English summ.] WR 125: 19

FUR ANIMALS, GENERAL

O'Neal, Ted. FUR RESOURCES ON THE INCREASE. La. Conservationist 18(11&12): 3, illus. Nov.-Dec. 1966. WR 125: 20

Nutria take in 1965-66 showed a 20% decrease--1,257,385 and the muskrat take of 324,204 indicated a 61% increase. Opossum, raccoon, mink, otter and fox had increases while lynx, skunk and beaver had decreases.

BEARS

Free, Stuart, and Peggy R. Sauer. CEMENTUM LAYERING IN THE CANINE TOOTH OF A 28-YEAR-OLD CAPTIVE BLACK BEAR. N.Y. Fish & Game J. 13(2): 233-234, 1 fig. July 1966. WR 125: 20

[N.Y. State Conserv. Dept., Albany.]

Razumovsky, B. I. [BEARS (URSUS ARCTOS ARCTOS L.) OF THE MOLOGA-SHEKSNA WATERSHED.] Zool. Zhur. 45(5): 725-729. 1966. [From J. Mammal. 48(1), 1967. In Russian with English summ.] WR 125: 20

Sauer, Peggy R. DETERMINING SEX OF BLACK BEARS FROM THE SIZE OF THE LOWER CANINE TOOTH. N.Y. Fish & Game J. 13(2): 140-145, 3 figs. July 1966. WR 125: 20

[N.Y. State Conserv. Dept., Albany.] Abstract: Data for 154 black bears of known sex from the Adirondack region showed that the canine teeth from males were significantly larger than those from females for the five dimensions measured and for volume. Maximum root width and maximum root thickness were the best criteria of sex, and, using them with respect to the lower canines, 78 of 78 females (100 per cent) and 70 of 74 males (95 per cent) were classified correctly. A gauge was devised with which about two-thirds of the sample could be sexed without individual tooth measurements.

Sauer, Peggy R., Stuart Free, and Stephen Browne. AGE DETERMINATION IN BLACK BEARS FROM CANINE TOOTH SECTIONS. N.Y. Fish & Game J. 13(2): 126-139, 11 figs. July 1966. WR 125: 20

[N.Y. State Conserv. Dept., Albany.] Abstract: Stained sections from the canine teeth of 23 tagged wild black bears, considered known age and ranging from 1.75 to 5.75 years old, were studied for correlation with age. Microscopic examination showed cementum layering in exact agreement with the age at recovery for the bears tagged as cubs and in close agreement for those judged to have been yearlings when tagged. It was concluded that development of the canine teeth provides the most reliable method presently available for determining age in this species. Age assignments based on this method were made for 109 bears taken during the 1964 hunting season.

MUSTELIDS

Gilbert, F. F., and E. D. Bailey. THE EFFECT OF VISUAL ISOLATION ON REPRODUCTION IN THE FEMALE RANCH MINK. J. Mammal. 48(1): 113-118. Feb. 1967. WR 125: 20

[Univ. Guelph, Guelph, Ontario, Canada.]

Manville, Richard H. THE EXTINCT SEA MINK, WITH TAXONOMIC NOTES. Proc. U.S. Natl. Museum 122(3584): 1-12, 2 figs. 1966. WR 125: 20

[Smithsonian Inst., Washington, D.C.] "Lutreola macrodon."

Olson, Herman F. RETURN OF A NATIVE. Wis. Conserv. Bull. 31(3): 22-23, 1 fig. May-June 1966. WR 125: 20

"The fisher, reintroduced in Wisconsin-Michigan national forests, is thriving. Its return appears to be bringing about a hoped-for result: better natural balance in the population density of porcupine."

Rust, Charles Chapin. HORMONAL CONTROL OF PELAGE CYCLES IN THE MINK AND THE SHORT-TAILED WEASEL. Ph.D. thesis, Univ. Wis. 99 p. 1964. [From Dissertation Abstr. 25(4), 1964.] WR 125: 21
"Mustela vison and M. erminea bangsi."

Verts, Bobbie Joe. THE BIOLOGY OF THE STRIPED SKUNK, MEPHITIS MEPHITIS (SCHREBER), AND ITS ROLE IN THE EPIZOOTIOLOGY OF RABIES IN NORTHWESTERN ILLINOIS. Ph.D. thesis, Southern Ill. Univ. 376 p. 1965. [From Dissertation Abstr. 27(5B), 1966. WR 125: 21

Wright, Philip L., and Malcolm W. Coulter. REPRODUCTION AND GROWTH IN MAINE FISHERS. J. Wildl. Mgmt. 31(1): 70-87, 5 figs. Jan. 1967.
WR 125: 21
[Mont. Coop. Wildl. Res. Unit, Missoula.] Abstract: New data concerning reproduction, aging techniques, and growth of fishers (Martes pennanti) were obtained from 204 specimens taken from October to April during 1950-64. All female fishers more than 1 year old were pregnant. The immature class consisted of juveniles in their first year. The period of delayed implantation lasted from early spring until mid- or late winter. Nine adult females taken in January, February, or March showed implanted embryos. Fishers in active pregnancy had corpora lutea 7 times the volume of those in the period of delay. Most litters are born in March, but some as early as late February and some in early April. Counts of corpora lutea of 54 animals taken during the period of delay and during active pregnancy averaged 3.35 per female. The number of embryos, either unimplanted or implanted, corresponded exactly with the number of corpora lutea in 18 of 21 animals. Two recently impregnated 1-year-old females, recognizable from cranial characters, had tubal morulae, confirming that females breed for the first time when 1 year old. Also confirmed are previous findings of Eadie and Hamilton that juvenile females can be distinguished from adults by open sutures in the skull throughout their first year. Juvenile males can be recognized in early fall by open sutures in the skull, absence of sagittal crest, immature appearance and lighter weight of bacula, unfused epiphyses in the long bones, and small body size. The sagittal crest begins to develop in December and often is well developed by March. The baculum grows slowly during the early winter, but by February there was some overlap with weights of adult bacula. Male fishers showed active spermatogenesis at 1 year. Open sutures were found in juvenile male skulls throughout the first year. Pelvic girdles of juveniles were distinguished by an open pubo-ischiac symphysis; adults of both sexes showed the two innominates fused into a single bone resulting from at least a partial obliteration of the symphysis. Mean body weights of animals weighed whole in the laboratory were as follows: adult males, 10 lb 12 oz; juvenile males, 8 lb 7.5 oz; adult females 5 lb 8 oz; juvenile females, 4 lb 11 oz.

DOGS, WOLVES, FOXES

Aulerich, Richard J. THE WOLF / BOTH RED AND GRAY SPECIES OF A VALUABLE NORTH AMERICAN PREDATOR STAND ON THE VERGE OF EXTINCTION. Natl. Parks Magazine 40(230): 10-13, illus. Nov. 1966. WR 125: 21
In the U.S., the timber wolf Canis lupus is restricted in distribution to northern Minn., Wis., Mich., and possibly Mont. The red wolf Canis niger is restricted in the U.S. to the most remote parts of Texas, Okla., La., Ark., and possibly Mo.

Egoscue, Harold J. DESCRIPTION OF A NEWBORN KIT FOX. Southwestern Nat. 11 (4): 501-502, 1 fig. 31 Dec. 1966. WR 125: 21
[Univ. Utah, Dugway.]

Estes, Richard D., and John Goddard. PREY SELECTION AND HUNTING BEHAVIOR OF THE AFRICAN WILD DOG. J. Wildl. Mgmt. 31(1): 52-70, 9 figs. Jan. 1967. WR 125: 22

[Cornell Univ., Ithaca, N.Y.] Abstract: African wild dog (Lycaon pictus) predation was observed in Ngorongoro Crater, Tanzania, between September, 1964, and July, 1965, when packs were in residence. The original pack of 21 dogs remained only 4 months, but 7 and then 6 members of the group reappeared in the Crater at irregular intervals. The ratio of males:females was disproportionately high, and the single bitch in the small pack had a litter of 9 in which there was only one female. The pack functions primarily as a hunting unit, cooperating closely in killing and mutual defense, subordinating individual to group activity, with strong discipline during the chase and unusually amicable relations between members. A regular leader selected and ran down the prey, but there was no other sign of a rank hierarchy. Fights are very rare. A Greeting ceremony based on infantile begging functions to promote pack harmony, and appeasement behavior substitutes for aggression when dogs are competing over meat. Wild dogs hunt primarily by sight and by daylight. The pack often approaches herds of prey within several hundred yards, but the particular quarry is selected only after the chase begins. They do not run in relays as commonly supposed. The leader can overtake the fleetest game usually within 2 miles. While the others lag behind, one or two dogs maintain intervals of 100 yards or more behind the leader, in positions to intercept the quarry if it circles or begins to dodge. As soon as small prey is caught, the pack pulls it apart; large game is worried from the rear until it falls from exhaustion and shock. Of 50 kills observed, Thomson's gazelles (Gazella thomsonii) made up 54 percent, newborn and juvenile wildebeest (Connochaetes taurinus) 36 percent, Grant's gazelles (Gazella granti) 8 percent, and kongoni (Alcelaphus buselaphus cokei) 2 percent. The dogs hunted regularly in early morning and late afternoon, with a success rate per chase of over 85 percent and a mean time of only 25 minutes between starting an activity cycle to capturing prey. Both large and small packs generally killed in each hunting cycle, so large packs make more efficient use of their prey resource. Reactions of prey species depend on the behavior of the wild dogs, and disturbance to game was far less than has been represented. Adult wildebeest and zebra (Equus burchelli) showed little fear of the dogs. Territorial male Thomson's gazelles, which made up 67 percent of the kills of this species, and females with concealed fawns, were most vulnerable. The spotted hyena (Crocuta crocuta) is a serious competitor capable of driving small packs from their kills. A minimum of 4-6 dogs is needed to function effectively as a pack. It is concluded that the wild dog is not the most wantonly destructive and disruptive African predator, that it is an interesting, valuable species now possibly endangered, and should be strictly protected, particularly where the small and medium-sized antelopes have increased at an alarming rate.

Paradiso, John L. RECENT RECORDS OF COYOTES, CANIS LATRANS, FROM THE SOUTHEASTERN UNITED STATES. Southwestern Nat. 11(4): 500-501, 1 fig. 31 Dec. 1966. WR 125: 22

[U.S. Natl. Museum, Washington, D.C.] Extension into Ark., La., Miss., and possibly Ala. since 1951.

Richards, Stephen H. ECHINOCOCCUS MULTILOCULARIS--ITS CHARACTERISTICS, DISTRIBUTION, AND IMPORTANCE. N. Dak. Outdoors 29(6): 1-3, 3 figs. Dec. 1966. WR 125: 22

Approximately 40% of 126 foxes examined in N. Dak. were harboring this parasite.

CATS

de Beaufort, F. LYNX DES PYRÉNÉES, FELIS (L.) LYNX LYNX (L.). [THE LYNX OF THE PYRENEES, FELIS (L.) LYNX LYNX (L.). Mammalia 29(4): 598-601. Dec. 1965. [From J. Mammal. 48(1), 1967. In French with English summ.] WR 125: 22

CATS--Continued

Kinns, Geoffrey. WILD CATS OF SCOTLAND. Geographical Magazine 39(1): 60-66. May 1966. [From J. Mammal. 48(1), 1967.] WR 125: 23

Kühme, Wolfdietrich. BEOBACHTUNGEN ZUR SOZIOLOGIE DES LÖWEN IN DER SERENGETI-STEPPE OSTAFRIKAS. [OBSERVATIONS ON THE SOCIOLOGY OF THE LIONS IN THE SERENGETI-STEPPE OF EAST AFRICA.] Z. Säugetierk. 31(3): 205-213. June 1966. [From J. Mammal. 48(1), 1967. In German with English summ.] WR 125: 23

Stevens, Clark L. THE FOOD OF NEW HAMPSHIRE BOBCATS. Forest Notes (N.H. Conserv. Magazine) 90: 28-31. Summer 1966. [From J. Mammal. 48(1), 1967.] WR 125: 23

BIG GAME, GENERAL

Andersen, Svend. RE-ESTABLISHING THE MUSK-OX, OVIBOS MOSCHATUS, IN WEST GREENLAND. Intern. Zoo Yearbook (Zool. Soc. London) 6: 229-230. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 23

Blood, Donald A. FOOD HABITS OF THE ASHNOLA BIGHORN SHEEP HERD. Canadian Field-Nat. 81(1): 23-29, 2 figs. Jan.-Mar. 1967. WR 125: 23
[British Columbia Fish & Wildl. Branch, Nanaimo.] Grasses made up an average of 72% of the diet from late September to mid June, forbs 4% and browse 24%. Bluebunch wheatgrass, the climax dominant of Ashnola winter ranges, was also the most important species in the bighorn diet. Subdominant grasses of secondary importance in the sheep diet were bluegrasses and junegrass. The only other plant of any significance in the bighorn diet was pasture sage, which accounted for 82% of the browse eaten. That species was relatively abundant on the range.--From summ.

Bubenik, Antonin B., and Vinko Munkačevič. KARAKTERISTIKE PAROŽNE TROFIKE JELENA (CERVUS ELAPHUS L.) BELJA. [CHARACTERISTICS OF ANTLER TROPHIC IN RED DEER (CERVUS ELAPHUS L.) OF BELJE.] Jelen 4: 43-49, 5 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 23

Chaudhuri, S. K. UNGULATES OF HIGH ELEVATIONS IN INDIA. J. Bengal Nat. Hist. Soc. 33(2): 248-254. Mar. 1965. [From J. Mammal. 48(1), 1967.] WR 125: 23

Danon, Jakov, Živojin Blaženčič, and Branko Bogovič. ISPITIVANJE UČEŠĆA SAMONIKLE ŠUMSKE VEGETACIJE U ISHRANI JELENA. [INVESTIGATION OF PARTICIPATION OF FOREST WILD GROWTH IN DEER GAME NOURISHMENT.] Jelen 4: 15-20. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 23

DESERT BIGHORN COUNCIL 1966 TRANSACTIONS. [ii] + 125 p., illus., photo-offset. 1966. Available at $2.00 from Desert Bighorn Council, 1500 North Decatur Blvd., Las Vegas, Nev. WR 125: 23
Contains 20 papers, as follows: Goals of the Council, John P. Russo; Where have we been and where are we going?, Ralph E. Welles; How wide is the scope of the Desert Bighorn Council, William Graf; Problems of recreational use of game ranges, Marcus Nelson; The place of refuges in desert bighorn management, Gale Monson; The meaning of army regulation 210-211, Warren E. Kelly; The National Park Service concept of wildlife management and the probable effects of desert bighorn, James A. Blaisdell; Records of the San Andres Refuge deer hunts, Roger A. Smith; Bighorn sheep management on the national forests, John M. Hall; A proposed desert bighorn sheep range development project, Mayo W. Call; Research and future rehabilitation of the bighorn sheep in southeastern Utah, Lanny O Wilson; Status of transplanted bighorns in Texas 1966, Tommy L. Hailey; Census and collections of exotic ungulates on the Hearst Ranch, Warren E. Kelly; Comparison of mule deer and desert bighorn seasonal food habits, Jim Yoakum; Multiple use coordination on the San Gorgonio Bighorn Unit, Hatch Graham; A comparative study of dental anomalies in desert

bighorn sheep, W. Glen Bradley and L. Glenn Allred; Comparative study of necrosis associated with teeth in desert bighorn sheep, L. Glenn Allred and W. Glen Bradley; Growth of the skull in desert bighorn sheep, Lee R. Baker and W. Glen Bradley; Techniques in habitat evaluation, Byron R. Donaldson; Recent literature, Jim Yoakum.

de Vos, A., and R. J. Dowsett. THE BEHAVIOR AND POPULATION STRUCTURE OF THREE SPECIES OF THE GENUS KOBUS. Mammalia 30(1): 30-55. Mar. 1966. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 24

Estes, Richard D. BEHAVIOUR AND LIFE HISTORY OF THE WILDEBEEST (CONNOCHAETES TAURINUS BURCHELL). Nature 212(5066): 999-1000. 3 Dec. 1966. WR 125: 24
[Cornell Univ., Ithaca, N.Y.]

Geist, Valerius. ON FIGHTING INJURIES AND DERMAL SHIELDS OF MOUNTAIN GOATS. J. Wildl. Mgmt. 31(1): 192-194, 2 figs. Jan. 1967. WR 125: 24
[Univ. British Columbia, Vancouver.] Abstract: A small, 3-year-old male goat (Oreamnos americanus) was severely injured by an old female when both were caught in a corral-trap. Thirty-two horn punctures were discovered on the male's body. Twenty-five were on the belly and hind legs, illustrating quantitatively that mountain goats strike at the opponent's rear and ventral parts. Two males shot just after the rut showed conspicuous dermal thickening over rump and rear. This dermal shield is located where most horn blows would land during fights with conspecifics.

Greer, Kenneth R., and William W. Hawkins, Jr. DETERMINING PREGNANCY IN ELK BY RECTAL PALPATION. J. Wildl. Mgmt. 31(1): 145-149, 2 figs. Jan. 1967. WR 125: 24
[Mont. Fish & Game Dept., Bozeman.] Abstract: Mature and yearling female elk (Cervus canadensis) were rectally palpated by an experienced veterinarian to determine pregnancy. The results when verified by autopsy revealed a high degree of accuracy. Wildlife biologists can perform the examination which provides immediate and highly accurate results at negligible cost. Reliable determinations can be expected if examinations are made in late December or thereafter.

Hegg, Otto. ANALYSES OF BIG-GAME DROPPINGS TO DETERMINE THEIR DIETARY COMPOSITION IN THE SWISS NATIONAL PARK. Transl. by John J. Stransky of: ANALYSEN VON GROSSWILDKOT AUS DEM SCHWEIZERISCHEN NATIONALPARK ZUR ERMITTLUNG DER NAHRUNGSZUSAMMENSETZUNG. (Rev. Suisse Zool. 68: 156-165. 1961.) USDA SE Expt. Sta. 9 p. Dec. 1966. Transl. from German. WR 125: 24
Summary: A method is described for preparing fecal specimens of herbivores for microscopic examination so that food items can be determined quantitatively. A method for preparing reference specimens of plant epiderma is also described. The results of over 200 fecal samples from red deer, chamois, and roe deer from the Swiss National Park were compiled. Differences were shown between the food habits of these species. A more thorough discussion can follow only after further research.

Holroyd, John C. OBSERVATIONS OF ROCKY MOUNTAIN GOATS ON MOUNT WARDLE, KOOTENAY NATIONAL PARK, BRITISH COLUMBIA. Canadian Field-Nat. 81(1): 1-22, 5 figs. Jan.-Mar. 1967. WR 125: 24
[St. Lawrence Island Natl. Park, Mallorytown, Ontario, Canada.] Population size and composition, goat characteristics, life history observations, behavior and activities, mortality factors and future prospects of Oreamnos americanus.

Jablan-Pantić, Olivera, and Jan Brna. VREME I REDOSLED POJAVA OSIFIKACIONIH CENTARA U SKELETU JELENA. [TIME AND ORDER OF APPEARANCE OF PUNCTA OSSIFICATION IN RED DEER SKELETON.] Jelen 4: 21-30, 10 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 24
Four age classes may be determined by X-ray examination of Cervus elaphus fetuses: 7-10 weeks; 11-17 weeks; 18-24 weeks; and 7 months to birth, using the technique described.

Jackson, Albert W. PRESENT NUMBERS OF BISON IN TEXAS. J. Mammal. 48(1): 145-146. Feb. 1967. WR 125: 25
[Bur. Sport Fisheries & Wildl., Washington, D.C.] A total of 299 bison reported for 30 of the 254 Texas counties.

Martinka, C. J. MORTALITY OF NORTHERN MONTANA PRONGHORNS IN A SEVERE WINTER. J. Wildl. Mgmt. 31(1): 159-164, 1 fig. Jan. 1967. WR 125: 25
[Mont. Fish & Game Dept., Havre.] Abstract: Winter mortality of pronghorn antelopes (Antilocapra americana) was studied near Glasgow, Montana, in April, 1965. A minimum loss of 500 pronghorns was associated with severe weather and occurred primarily on foothill grassland along the Milk River. Bone marrow examination of 59 carcasses indicated that malnutrition was the principal cause of death. Sex and age composition of 327 carcasses was 28, 33, and 39 percent fawns, adult males, and adult females, respectively. Comparison of carcass age ratios with ratios observed in summer herds suggested a differentially high mortality for fawns but not for yearlings. A low mortality rate was indicated for 2.5-year-olds; the rate apparently increased for animals older than 2.5. Sex ratio comparisons were inconclusive for fawns but indicated that 1.5-3.5-year-old females had a higher mortality rate than males of the same age. The mortality rate of males 4.5-7.5 years and older appeared greater than females of the same age group. Food habits were studied from analysis of 14 carcass rumens and 6,113 instances of plant use recorded at 31 pronghorn feeding sites. Rumen contents were characterized by fringed sagewort (Artemisia frigida), creeping juniper (Juniperus horizontalis), and a variety of forbs. Comparison of rumen samples with feeding site examinations suggested that starvation occurred while animals were restricted to the grassland vegetative type. Among pronghorns in the Glasgow herd fawn production was 39-55 fawns per 100 does as compared to a normal of 90-110. On the Malta winter range where sagebrush was abundant, available, and heavily utilized, losses were minor and fawn production normal.

Matschke, George H. AGING EUROPEAN WILD HOGS BY DENTITION. J. Wildl. Mgmt. 31(1): 109-113, 2 figs. Jan. 1967. WR 125: 25
[UT-AEC Agr. Res. Lab., Oak Ridge, Tenn.] Abstract: A method of aging pen-reared European wild hogs (Sus scrofa) was developed by using the time and order of tooth eruption and replacement. Wild hogs are born with incisors three (i 3/3) and canines (c 1/1). All deciduous incisors and premolars erupt by 120 days. Molars one (M 1/1) and premolars (P 1/1), the first permanent teeth, erupt at about 5 months. At 7 months permanent incisors three (I 3/3) and canines (C 1/1) replace their deciduous counterparts. Molars two (M 2/2) and permanent incisors one (I 1/1) are present in pigs aged 12-15 months. Temporary premolars are replaced at 14-18 months, and permanent lower incisors two (I /2) erupt at 18-22 months. Upper incisors two (I 2/) and lower molars three (M /3) erupt at 21-26 months. Permanent dentition is complete with the eruption of upper molar three (M 3/) at 26 months or later. Since molars three (M 3/3) continue to grow as the upper and lower jaws elongate this may possibly be used as an aging technique for hogs over 26 months of age. Tooth eruption data obtained from wild trapped hogs corresponded closely with the penned hog data.

Miller, Donald Ray, and Joseph D. Robertson. RESULTS OF TAGGING CARIBOU AT LITTLE DUCK LAKE, MANITOBA. J. Wildl. Mgmt. 31(1): 150-159, 4 figs. Jan. 1967. WR 125: 25
[Canadian Wildl. Serv., Dept. Northern Affairs & Natl. Resources, Ottawa, Ontario.] Abstract: Herculite streamers attached to cattle eartags were used to tag 2,438 barren ground caribou (Rangifer tarandus) at Little Duck Lake, Manitoba, from 1959 to 1965. Eighty-two tags were recovered, 8 tagged caribou were observed, and 3 were recaptured at Duck Lake. Tags were recovered from 2-63 months after application and between 62 and 328 miles from the tagging site. Fifty-six winter tag recoveries were spread over the herd's entire range while the 26 summer recoveries were exclusively from the Keewatin District of the Northwest Territories. Tag recoveries have shown that the Manitoba-Keewatin

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caribou herd shares a portion of its winter range with the adjacent Saskatchewan herd but the two herds appear to use separate calving grounds and summer ranges. Herd movements have been variable and involve widely separated subgroups. Since a large portion of the herd's range receives little or no hunting pressure, the herd's seasonal distribution and specific movement patterns could not be determined from the hunters' tag recoveries.

Mystkowska, Ewa T. MORPHOLOGICAL VARIABILITY OF THE SKULL AND BODY WEIGHT OF THE RED DEER. Acta Theriologica 11(5-9): 129-194, 20 figs. 30 Oct. 1966. In English with Polish summ. WR 125: 26
[Polish Acad. Sci., Mammals Res. Inst., Białowieża, Poland.] "Cervus elaphus."

Pantić, Vladimir. ULOGA ENDOKRILNIH ŽLEZDA U RAZVIČU ROGOVA JELENA. [THE ROLE OF ENDOCRINE GLANDS IN THE DEVELOPMENT OF ANTLERS.] Jelen 4: 31-41, 6 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 26
"Cervus elaphus."

Pantić, V., and N. Stošić. INVESTIGATIONS OF THE THYROID OF DEER AND ROEBUCKS. Acta Anat. 63(4): 580-590. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 26

Pavlović, Milutin. ISPITIVANJA KOŽE SRNDAČA. [INVESTIGATIONS OF THE SKIN OF CAPREOLUS CAPREOLUS.] Jelen 4: 57-64, 5 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 26

Pepper, G. W. 1966 ANTELOPE POPULATION TREND SURVEY IN SASKATCHEWAN. Saskatchewan Dept. Nat. Resources. 9 p. + 2 figs. + 7 p. of tables. Undated. WR 125: 26
Abstract: The July aerial survey revealed a substantial population increase of 75 percent over 1965 and a population density which has returned to huntable numbers. Greatly improved age ratios indicated good reproductive success in the 1966 antelope population.

Petrović, Zlatibor, Arkadije Borđoški, and Stojan Popović. PRILOG POZNAVANJU FAUNE HELMINATA U DIVLJE SVINJE (SUS SCROFA L.). [A CONTRIBUTION TO THE KNOWLEDGE OF THE HELMINTHOLOGICAL FAUNA OF THE WILD BOAR (SUS SCROFA L.).] Jelen 4: 65-67. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 26
Nine species of nematodes and one species of trematode are reported.

Petrović, Zlatibor, Arkadije Borđoški, and Stojan Popović. PRILOG POZNAVANJU FAUNE HELMINATA U JELENA (CERVUS ELAPHUS) I SRNE (CAPREOLUS CAPREOLUS). [A CONTRIBUTION TO THE KNOWLEDGE OF THE HELMINTHOLOGICAL FAUNA OF CERVUS ELAPHUS AND CAPREOLUS CAPREOLUS.] Jelen 4: 51-55, 3 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 26

Pribičević, Simeon, and Branko Bogović. PRILOG POZNAVANJU ISHRANE BELJSKOG JELENA. [ON THE FODDER PREFERENCES AMONG DEER IN BELJE.] Jelen 4: 7-14. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 26
"Cervus elaphus."

Robinson, R. M., T. L. Hailey, C. W. Livingston, and J. W. Thomas. BLUETONGUE IN THE DESERT BIGHORN SHEEP. J. Wildl. Mgmt. 31(1): 165-168. Jan. 1967. WR 125: 26
[Texas A & M Univ., College Station.] Abstract: A young desert bighorn ram (Ovis canadensis) approximately 8 months old was found ill in its natural habitat. Inoculation of a suspension of its lung tissue into domestic sheep resulted in lesions typical of bluetongue disease. Serological studies confirmed the diagnosis. The possibility is presented that this disease may have been partially responsible for the disappearance of the desert bighorn from the Trans-Pecos area of Texas.

Roth, H. H. OBSERVATIONS ON GROWTH AND AGEING OF WARTHOG, PHACOCHOERUS AETHIOPICUS (PALLAS, 1766). Z. Säugetierk. 30(6): 367-380. Nov. 1965. [From J. Mammal. 48(1), 1967. In English with German summ.] WR 125: 27

Scotter, George W. SIEVE MESH SIZE AS RELATED TO VOLUMETRIC AND GRAVIMETRIC ANALYSIS OF CARIBOU RUMEN CONTENTS. Canadian Field-Nat. 80(4): 238-241. Oct.-Dec. 1966. WR 125: 27
[Utah State Univ., Logan.] Summary: A study was undertaken to determine which of three sieve mesh sizes could best be employed to determine the percentage composition of forage samples from the rumens of six barren-ground caribou. The second purpose was to compare the results obtained using wet volume and air-dry weight as methods of measurement. Of the meshes tested the smallest, with openings of 2.00 mm, appeared to provide the best results. Gravimetric procedures offered advantages over volumetric ones.

Scotter, George W. THE WINTER DIET OF BARREN-GROUND CARIBOU IN NORTHERN CANADA. Canadian Field-Nat. 81(1): 33-39. Jan.-Mar. 1967. WR 125: 27
[Utah State Univ., Logan.] The data indicate that terrestrial lichens are the most abundant plants in the winter diet of barren-ground caribou, constituting more than 50% of the food intake. Although lichens dominate the winter diet, caribou are rather catholic in their feeding habits and many items are included in addition to lichens. A number of woody plants, several grass and grass-like plants, and many species of bryophytes composed 19.8, 2.9, 3.1 percent of the diet, respectively. Some of the limitations of rumen analyses, such as differential digestion rates for some plants, are discussed. Although caribou stomach analyses are not highly accurate, they still provide an index to food habits not subject to some of the limitations of other methods. The value of rumen analyses may be improved by using them in connection with other methods of diet determination, such as feeding crater studies.--From summ.

Szaniawski, Andrzej. OSTEOLOGISCHE UNTERSUCHUNGEN ÜBER DEN ROTHIRSCH IN POLEN. [OSTEOLOGICAL INVESTIGATIONS ON THE RED DEER IN POLAND.] Acta Theriologica 11(5-9): 195-267, 33 figs. 30 Oct. 1966. In German with Polish summ. WR 125: 27
"Cervus elaphus."

Wilhelm, Eugene J., Jr. RETURN OF THE ELK TO APPALACHIA. Natl. Parks Magazine 41(232): 16, illus. Jan. 1967. WR 125: 27
About 50 elk are found in the Peaks of Otter district of Va. These are the result of a stocking of two dozen elk made in 1917.

DEER (Odocoileus)

de Vos, A. RUBBING OF CONIFERS BY WHITE-TAILED DEER IN SUCCESSIVE YEARS. J. Mammal. 48(1): 146-147. Feb. 1967. WR 125: 27
[Univ. Waterloo, Waterloo, Ontario, Canada.]

Duvendeck, Jerry Paul. THE VALUE AND PREDICTION OF ACORN CROPS FOR DEER. Ph.D. thesis, Mich. State Univ. 92 p. 1964. [From Dissertation Abstr. 25 (4), 1964.] WR 125: 27

Frey, Phil. UP GOES THE VENISON. Outdoor Okla. 23(2): 14-16, [4 figs.]. Feb. 1967. WR 125: 27
In 1933, the total deer kill in Oklahoma was 235. In 1966, bow hunters killed 275 deer and with the 4,925 kills for gunners, the record total deer kill was 5,200.

Heezen, Keith L., and John R. Tester. EVALUATION OF RADIO-TRACKING BY TRIANGULATION WITH SPECIAL REFERENCE TO DEER MOVEMENTS. J. Wildl. Mgmt. 31(1): 124-141, 15 figs. Jan. 1967. WR 125: 28

[Mich. Dept. Conserv., Caro.] Abstract: Four parameters out of the five investigated were found useful for studying white-tailed deer (Odocoileus virginianus) movements by triangulation with an automatic radio-tracking system. These were total area, greatest linear dimension, mean activity radius and distribution of activity radii, and appearance of the map. Random plots, which simulated deer movements, were used to determine the effects of varying the location of the animal's range in relation to the triangulation stations. Results show an increase in size of range and a loss in accuracy of location as the plots were moved out. An "hourglass-shaped" area of about 3,300 acres is considered to be within acceptable accuracy with a 0.5-mile base line and a $\pm 0.5^{\circ}$ resolution. Point locations were obtained at 1-min intervals for selected time periods for three deer. These data were then sampled at intervals of 2, 3, 4, 5, 6, 10, 15, 30, and 60 min. Values for total area and greatest dimension decreased and the mean activity radius increased as the sampling interval became longer. A sufficient number of point locations can be maintained by using a short sampling interval or long observation period. Comparisons of home range size were made among individual deer and between a winter and an early spring period using the above four parameters. Spring ranges were significantly larger than winter ranges and movements in spring were longer with less concentration of activity. The differences between winter and spring behavior are probably related to higher spring temperatures and the disappearance of snow.

Loveless, Charles Marion. ECOLOGICAL CHARACTERISTICS OF A SELECTED MULE DEER WINTER RANGE. Ph.D. thesis, Colo. State Univ. 343 p. 1963. [From Dissertation Abstr. 25(4), 1964.] WR 125: 28

Mangold, Robert E. HOW MANY DEER? N.J. Outdoors 17(1): 8-13, illus. July 1966. WR 125: 28

A comparison of results based on legal harvest and helicopter census for six northern N.J. counties in 1966. In the Feb. census of about 2,121 square miles of potential deer range there were approximately 24,500 deer or 11.5/ sq. mile. This is 14% more than the 21,441 deer calculated from the 1965 harvest figures.

Mangold, Robert E. TRACK COUNT. N.J. Outdoors 17(6): 9-12 + 1 photo. Dec. 1966. WR 125: 28

An estimated deer density for 1966 of 5.60 deer/square mile was derived from track counts on 508 miles of road. For 1965 the estimate was 4.83 deer/square mile.

McDowell, Robert D. CONNECTICUT'S DEER HUNTERS. Conn. Agr. Expt. Sta. Res. Rept. 18. 15 p., 1 fig. Dec. 1966. WR 125: 28

[Univ. Conn., Storrs.] The who, how, when, where and what of Conn. deer hunters for the period 1955-1959 as revealed by questionnaires.

Michael, Edwin Daryl. DAILY AND SEASONAL ACTIVITY PATTERNS OF WHITE-TAILED DEER ON THE WELDER WILDLIFE REFUGE. Ph.D. thesis, Texas A & M Univ. 224 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 28

In this paper are discussed the bedding, drinking, feeding, mating, and playing activities of white-tailed deer as well as the factors which seemed to have the greatest effects on these activities. For each of these activities the influence of changes in season, hour-of-day, temperature, precipitation, cloud cover, wind, and moon phase is discussed.

DEER (Odocoileus)--Continued

Ransom, A. Brian. REPRODUCTIVE BIOLOGY OF WHITE-TAILED DEER IN MANITOBA. J. Wildl. Mgmt. 31(1): 114-123, 3 figs. Jan. 1967. WR 125: 29
[Box 990, Boissevain, Manitoba, Canada.] Abstract: This study is based on 159 female white-tailed deer (Odocoileus virginianus) collected during the winters of 1961, 1962, and 1963 from, in order of decreasing habitat quality, the Turtle Mountain, Duck Mountain, and Whiteshell areas of Manitoba. Conception rates were high for adults and yearlings but relatively low for fawns. Ovulation rates and average numbers of fetuses per pregnant doe were high for adults from all areas but the ovulation rate was significantly higher for adults from Turtle Mountain. Both rates were high for yearlings from Turtle Mountain but relatively low for yearlings from the Whiteshell and Duck Mountain. Considering all age-groups, fertility was highest in Turtle Mountain, followed by Duck Mountain, and lowest in the Whiteshell. The rate of ova loss among adult does from Turtle Mountain was significantly higher than among adults from the other areas. This may be due, indirectly, to "flushing." Kidney fat indices showed that deer from all areas lost condition at the same rate during winter. A general comparison of winter environment between the Whiteshell, which was closed to hunting, and the Upper Peninsula of Michigan indicates that lower temperatures in the Whiteshell cause deer there to suffer more from malnutrition during average winters than do deer in the Upper Peninsula and hence to have relatively higher numbers of stillbirths and postnatal losses of fawns. Lighter snowfall in the Whiteshell allows deer to cover more of their summer range in winter than do Upper Peninsula deer, thus helping to explain why over-utilization of browse in the Whiteshell is not the serious problem it is in the Upper Peninsula. Winter weather appears to be sufficient to prevent deer irruptions in the Whiteshell and to hold maximum density well below that reached in the Upper Peninsula. It is postulated that similar controls function in the rest of Manitoba.

Robinson, Paul F. ORGAN : BODY WEIGHT RELATIONSHIPS IN THE WHITE-TAILED DEER, ODOCOILEUS VIRGINIANUS. Chesapeake Sci. 7(4): 217-218. Dec. 1966. WR 125: 29
[U.S. Army Edgewood Arsenal, Edgewood, Md.]

Tierson, William C., Earl F. Patric, and Donald F. Behrend. INFLUENCE OF WHITE-TAILED DEER ON THE LOGGED NORTHERN HARDWOOD FOREST. J. Forestry 64(12): 801-805, 5 figs. Dec. 1966. WR 125: 29
[Huntington Wildl. Forest Sta., State Univ. Coll. Forestry, Newcomb, N.Y.] Abstract: Two deer exclosures erected in a mature northern hardwood forest type in the central Adirondack Mountains have been evaluated since 1939. In 1955 one of these exclosures was logged and vegetation sampled annually thereafter. Differences in vegetation were visually noticeable at the end of the first growing season. Data collected from samples could not demonstrate these differences to be significant from a management viewpoint. A modified sampling plan was inaugurated in 1963 which provided data that substantiated the visual impression. An analysis of stems 3 feet and over in height showed the white-tailed deer to be a limiting factor in the height growth of many hardwood tree species and woody shrubs.

Wing, Elizabeth S. THE WHITE-TAILED DEER / EARLY HISTORY IN FLORIDA. Fla. Wildl. 20(5): 10-13, illus. Oct. 1966. WR 125: 29
[Fla. State Museum, Univ. Fla., Gainesville.]

MAMMALS--MARINE

Fay, Francis H. THE NUMBER OF RIBS AND THORACIC VERTEBRAE IN PINNIPEDS. J. Mammal. 48(1): 144. Feb. 1967. WR 125: 29
[Arctic Health Res. Center, Public Health Serv., Anchorage, Alaska.]

Feinstein, Stephen H., and Charles E. Rice. DISCRIMINATION OF AREA DIFFERENCES BY THE HARBOR SEAL. Psychonomic Sci. 4(11): 379-380. 15 Apr. 1966. [From J. Mammal. 48(1), 1967.] WR 125: 29

Fraser, F. C. GUIDE FOR THE IDENTIFICATION AND REPORTING OF STRANDED WHALES, DOLPHINS AND PORPOISES ON THE BRITISH COASTS. British Museum (Nat. Hist.). ix + 34 p., illus. 1966. Price 2s. 6d. [From Biol. Abstr. 47(20), 1966.] WR 125: 30

Hubbs, Carl L., and Laura C. Hubbs. GRAY WHALE CENSUSES BY AIRPLANE IN MEXICO. Calif. Fish & Game 53(1): 23-27, 1 fig. Jan. 1967. WR 125: 30
[Scripps Inst. Oceanog., Univ. Calif., San Diego.] Abstract: Aerial censuses of the gray whale, Eschrichtius gibbosus (Erxleben), populations in the wintering waters in Mexico (from near San Diego to around Cabo San Lucas, with a few records from the shores of the Gulf of California), chiefly in and about the lagoons along the west coast of Baja California, from 1952 through 1964, yielded the following counts (counts plausibly explicable as too low in parentheses): 1952, 827; 1953, 912 and 731; 1954, (276) and 1,315; 1955, (584); 1956, (960); 1957, (631); 1959, 1,509; 1960, 1,455; 1961, (959); 1962, 1,193; 1964, 1,581. When these explicably low counts are largely disregarded the following conclusions seem warranted: (1) higher counts after 1952 and 1953 suggest a growing population; (2) data for 1954-1964 suggest a leveling off of the population; (3) on assumption that about half the population was observed, the total population may be roughly estimated as about 3,000; (4) nearly identical low counts for 1952 and 1953 and high counts for 1959 and 1960 seem to refute the hypothesis that odd-year runs differ markedly from the even-year runs.

Kooyman, Gerald Lee. POLAR ADAPTATION OF THE WEDDELL SEAL, LEPTONYCHOTES WEDDELLI, LESSON. Ph.D. thesis, Univ. Ariz. 165 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 30

Mansfield, A. W. THE GREY SEAL IN EASTERN CANADIAN WATERS. Canadian Audubon 28(4): 161-166, illus. Nov.-Dec. 1966. WR 125: 30
Population status, breeding behavior, dispersal, economic considerations, and recommendations for management of Halichoerus grypus.

Orr, Robert T. THE GALAPAGOS SEA LION. J. Mammal. 48(1): 62-69, 4 figs. Feb. 1967. WR 125: 30
[Calif. Acad. Sci., San Francisco.] Abstract: During parts of January and February 1964, observations were made on Galapagos sea lions. On Barrington Island one social group, composed of a dominant bull, females, pups, and immatures, was kept under observation for six days. The group slept at night on the higher beach. Activity began at dawn and all members of the group entered the water by shortly after sunup. Most of them returned to land within an hour or two. The dominant male permitted no other males in his territory. Stray bulls slept on the beach at night unnoticed. Females were observed nursing large immatures as well as pups. Lava lizards were seen on or near sea lions, where the lizards captured flies attracted by the larger animals.

Peterson, Richard S., and William G. Reeder. MULTIPLE BIRTHS IN THE NORTHERN FUR SEAL. Z. Säugetierk. 31(1): 52-56. Feb. 1966. [From J. Mammal. 48(1), 1967. In English with German summ.] WR 125: 30

Pike, G. C., and L. Giovando. WHALES AND DOLPHINS OF THE WEST COAST OF CANADA. Fisheries Res. Board Canada, Circ. no. 68. 43 p. Mar. 1963. [From J. Mammal. 48(1), 1967.] WR 125: 30

Schusterman, Ronald J., and Thomas Thomas. SHAPE DISCRIMINATION AND TRANSFER IN THE CALIFORNIA SEA LION. Psychonomic Sci. 5(1): 21-22. 5 May 1966. [From J. Mammal. 48(1), 1967.] WR 125: 30

Smith, M. S. R. INJURIES AS AN INDICATION OF SOCIAL BEHAVIOR IN THE WEDDELL SEAL (LEPTONYCHOTES WEDDELLI). Mammalia 30(2): 241-246. June 1966. [From J. Mammal. 48(1), 1967. In English with French summ.] WR 125: 30

MAMMALS--OTHER GROUPS

Fisler, George F. NONBREEDING ACTIVITIES OF THREE ADULT MALES IN A BAND OF FREE-RANGING RHESUS MONKEYS. J. Mammal. 48(1): 70-78. Feb. 1967. WR 125: 31
[San Fernando Valley State Coll., Northridge, Calif.]

Pollard, J. S., and A. M. Lysons. POSSUMS IN THE CLOSED FIELD TEST. Animal Behaviour 15(1): 129-133. Jan. 1967. WR 125: 31
[Univ. Canterbury, Canterbury, New Zealand.] Summary: Six brush-tail possums were run through six problems in the Hebb-Williams closed field test, three of which permitted direct visual solution and three of which did not. In comparison with the performance of rats and cats, possums made markedly more errors on both types of problem. Because of the large differences in total error, proportional measures were used to compare the three species on different segments of performance. A measure based on the proportion of total errors made on those problems permitting direct visual solution discriminated between the cats and the rats and possums, while a measure based on the proportion of total errors made on the first four of the eight runs given on each test problem discriminated between the possums and the rats and cats.

BIRDS--GENERAL

Fennell, Chester M. STOMACH ANALYSES OF KOREAN BIRDS. Misc. Rept. Yamashina's Inst. Ornithol. Zool. 4: 172-183. 1965. [From Bird-Banding 37 (4), 1966.] WR 125: 31
Stomach contents of 1407 birds from South Korea comprise the subject of this paper. Some 244 forms (species and subspecies) are included in a lengthy table presenting stomach contents of each species.

Green, R. H. GUT CONTENTS OF SOME TASMANIAN BIRDS. Emu 66(2): 105-110. Oct. 1966. WR 125: 31
[Queen Victoria Museum, Launceston, Tasmania.] List of foods of 22 bird species.

Lanyon, Wesley E. MELANISM IN THE OVENBIRD. Wilson Bull. 78(4): 474-475, 1 fig. Dec. 1966. WR 125: 31
[Am. Museum Nat. Hist., New York, N.Y.] A melanistic ovenbird (Seiurus aurocapillus) was mist-netted at Huntington, N.Y.--Courtesy/ Paul A. Stewart.

Piechocki, R. AUGENKATALOG DER VÖGEL EUROPAS. [CATALOGUE OF THE EYES OF EUROPEAN BIRDS.] Der Präparator [Z. Museumstechnik] (Bonn). 71 p. 1965. [From Auk 83(4), 1966. In German.] WR 125: 31
A catalogue listing the eye color and size of all European birds, indicating differences in sex and age.

Smith, I. D. ROLE OF AVIAN PREDATORS IN LAMB MORTALITY IN QUEENSLAND. Australian Vet. J. 41: 333-335, 1 fig. Dec. 1965. WR 125: 31
[Univ. Queensland, St. Lucia, Queensland, Australia.] Summary: Observations on Merino and Border Leicester flocks in western Queensland indicated that both the raven (Corvus coronoides) and wedge-tailed eagle (Aquila audax) were responsible for the death of viable lambs, which were usually attacked in the immediate postparturient period. Twin lambs were more subject to attack than single lambs. Lethal mutilation was responsible for most of the deaths caused by avian predators but there was a low incidence of mortality due to clostridial infection of wounds and maternal desertion following attack by ravens.

Wetherbee, David Kenneth. GAMMA IRRADIATION OF BIRDS' EGGS AND THE RADIOSENSITIVITY OF BIRDS. Mass. Agr. Expt. Sta. Bull. no. 561. 103 p., 2 figs. Oct. 1966. WR 125: 31
[Mass. Coop. Wildl. Res. Unit, Amherst.] This report presents original data (Part 1) and a review of other research (Part 2) on the effects of radiation on hatchability of birds' eggs and the effects upon subsequent fertility (consequent sterility) of wild bird species. While the literature reports some

work with irradiation of chickens, wild bird species have for the most part been neglected. Information on the effects of radiation upon wild birds is important in evaluating hazards of nuclear attack because 1) migratory birds may carry radionuclides, 2) birds are an important natural resource and 3) sterile individuals in a population limit population size more seriously than if the same individuals were killed.--From introduction.

BIRDS--TECHNIQUES

Beshears, W. Walter, Jr. DOVE TRAPS CAPTURE DUCKS DURING BANDING OPERATIONS. Ala. Conserv. 36(6): 11, illus. Oct.-Nov. 1966. WR 125: 32

In addition to the 1102 wood ducks banded at two trap sites during June-Sept. 1966, there were more than 2000 repeats handled. As many as 40 wood ducks were captured at one time in the 3' x 3' dove traps.

Haftorn, Svein. A METHOD OF STUDYING THE FAMILY LIFE IN HOLE-NESTING BIRDS. Det Kongelige Norske Videnskabers Selskabers Forhandlinger 38(10): 44-50. 1965. [From Bird-Banding 38(1), 1967.] WR 125: 32

"An ingenious technique involving gradual movement of a nestbox in which tits are nesting up to an especially constructed observation nestbox in the wall of an observation hut. The nest and its contents are then transferred from the original box to the experimental one."

Heimerdinger, Mary A., and Robert C. Leberman. THE COMPARATIVE EFFICIENCY OF 30 AND 36 MM. MESH IN MIST NETS. Bird-Banding 37(4): 280-285, 1 fig. Oct. 1966. WR 125: 32

[Carnegie Museum, Pittsburgh, Pa.] "Banders who wish to catch the broadest possible range of species in their area should use several mesh sizes in their net lanes; the proportionate numbers of each mesh will be determined by the size composition of the particular avifauna. Persons conducting general population surveys would also do best to use a variety of net types, and those concentrating on a single species should use the most efficient mesh size for that species."--Courtesy/ Paul A. Stewart.

Horwich, Robert H. FEATHER DEVELOPMENT AS A MEANS OF AGING YOUNG MOCKINGBIRDS (MIMUS POLYGLOTTOS). Bird-Banding 37(4): 257-267, 3 figs. Oct. 1966. WR 125: 32

[Univ. Md., College Park.] Descriptions of cage-reared mockingbirds (Mimus polyglottos) of known ages are offered for use in the ageing of wild birds.--Courtesy/ Paul A. Stewart.

Scott, D. M. POSTJUVENAL MOLT AND DETERMINATION OF AGE OF THE CARDINAL. Bird-Banding 38(1): 37-51, 3 figs. Jan. 1967. WR 125: 32

[Univ. Western Ontario, London, Ontario, Canada.] Cardinals (Richmondena cardinalis) with rectrices having pointed ends are immatures; those with rectrices having blunt or rounded ends are adults. Birds hatched before late July attain the rounded rectrices by the following winter, while those hatched after late July retain the pointed rectrices.--Courtesy/ Paul A. Stewart.

BIRDS--MORPHOLOGY & PHYSIOLOGY

Blackmore, Floyd H., Jr. THE ENERGY REQUIREMENTS AND NITROGEN BALANCE OF THE HOUSE SPARROW, PASSER DOMESTICUS, DURING MOLT. Ph.D. thesis, Univ. Ill. 59 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 32

Dolnik, V. R. [CHANGES IN RATIO OF FAT AND CARBOHYDRATE METABOLISM AS AN ENDOGENOUS STIMULUS TO MIGRATION IN BIRDS.] Zool. Zhur. 45(6): 897-909. 1966. [From Bird-Banding 38(1), 1967. In Russian.] WR 125: 32

Eldarov, A. L., and Yu. A. Kholodov. [THE EFFECT OF A CONSTANT MAGNETIC FIELD ON THE MOTOR ACTIVITY OF BIRDS.] Zhur. Obshch. Biol. 25(3): 224-229. 1964. [From Bird-Banding 37(4), 1966. In Russian with English summ.] WR 125: 33

El-Wailly, Alwan Jasim. ENERGY REQUIREMENTS FOR EGG-LAYING AND INCUBATION IN THE ZEBRA FINCH, TAENIOPYGIA CASTANOTIS. Condor 68(6): 582-594, 4 figs. Nov.-Dec. 1966. WR 125: 33
[Coll. Education, Baghdad, Iraq.] Courtesy/ Paul A. Stewart.

Farrar, R. B., Jr. LEAN DRY WEIGHT AND WATER BALANCE IN SLATE-COLORED JUNCOS. Auk 83(4): 616-622, 2 figs. Oct. 1966. WR 125: 33
[Univ. Ill., Chicago Circle, Chicago, Ill.] The average slate-colored junco (Junco hyemalis) had a wing length of 76 mm and a nonfat dry weight of 5.3 g. A 1.0 mm increase in wing length reflected a 0.1 g increase in lean dry weight. Captive birds lost nonfat dry weight and water rapidly for the first several days of captivity; then these parameters returned to a point slightly below normal.--Courtesy/ Paul A. Stewart.

Fry, C. H. LIPID LEVELS IN AN INTRATROPICAL MIGRANT. Ibis 109(1): 118-120, 1 fig. Jan. 1967. WR 125: 33
[Ahmadu Bello Univ., Zaria, Nigeria.] "Merops albicollis."

Grant, Peter Raymond. THE SIGNIFICANCE OF SOME INSULAR CHARACTERISTICS IN BIRDS. Ph.D. thesis, Univ. British Columbia. 227 p. 1964. [From Dissertation Abstr. 25(4), 1964.] WR 125: 33

Johnston, Richard F. COLORIMETRIC STUDIES OF SOIL COLOR-MATCHING BY FEATHERS OF HOUSE SPARROWS FROM THE CENTRAL UNITED STATES. Kans. Ornithol. Soc. Bull. 17(4): 19-23, 4 figs. Dec. 1966. WR 125: 33
[Univ. Kans., Lawrence.] Summary: Pigments of breast feathers of female specimens of house sparrows taken in fall are colorimetrically nearly identical to soil pigments from places in which the birds dustbathe. Specifically, hue and chroma are the same for the two sets of pigments; they differ only in value (brightness). The probable causes of such color matching include natural selection by visual predators. Local differentiation in feather color thus may occur rapidly (within 90 generations), very probably reflecting environmental pressures.

Keve, Andrew. THE JUVENILE PLUMAGE OF THE JAY GARRULUS GLANDARIUS. Ibis 109(1): 120-122. Jan. 1967. WR 125: 33
[Madártani Intézet, Budapest II, Hungary.]

Lack, D., and R. E. Moreau. CLUTCH-SIZE IN TROPICAL PASSERINE BIRDS OF FOREST AND SAVANNA. Oiseau 35 (suppl.): 76-89. 1965. [From Ibis 109(1), 1967.] WR 125: 33

Stresemann, E., and V. Stresemann. DIE MAUSER DES KAMPFLÄUFERS PHILOMACHUS PUGNAX. [THE MOLT OF THE RUFF (PHILOMACHUS PUGNAX).] Oiseau 35 (suppl.): 125-129. 1965. [From Ibis 109(1), 1967. In German.] WR 125: 33

Thomson, J. A., and N. W. Morley. PHYSIOLOGICAL CORRELATES OF HABITAT SELECTION IN AUSTRALIAN CORMORANTS. Emu 66(1): 17-26, 1 fig. June 1966. WR 125: 33
[Univ. Melbourne, Parkville, Victoria, Australia.] Summary: The relation of habitat and food preferences to relative size of the nasal salt glands and adrenal glands in 5 Australian cormorant species has been investigated. The diet of the little pied cormorant in particular differs in the marine/estuarine and fresh-water habitats. The mean relative nasal gland size of both black and little pied cormorants is significantly different in these contrasting habitats, while other species show apparently consistent trends. Within species there is no significant correlation of relative adrenal size with relative nasal salt gland size. Implications of the data in relation to population movement and the hormonal regulation of extrarenal excretion are discussed.

Bartholomew, George A. THE ROLE OF BEHAVIOR IN THE TEMPERATURE REGULATION OF THE MASKED BOOBY. Condor 68(6): 523-535, 5 figs. Nov.-Dec. 1966. WR 125: 34

[Univ. Calif., Los Angeles.] Body temperatures of adult masked boobies (Sula dactylatra) averaged 40.7° C at midday and 38.3° C at night. Behavioral responses to heat included orienting the body with the back toward the sun, elevating the scapulars, drooping the wings, and sustained gular flutter. Brooded chicks and pipped eggs had temperatures between 38° and 40° C. Temperature control increased with size of the chicks and was attained at a weight of about 400 g. Heating and cooling were more rapid immediately after rather than before hatching.--From summ. Courtesy/ Paul A. Stewart.

Berger, Andrew J. HEAD-SCRATCHING BEHAVIOR OF SOME HAND-RAISED BIRDS. Wilson Bull. 78(4): 469. Dec. 1966. WR 125: 34

[Univ. Hawaii, Honolulu.] Courtesy/ Paul A. Stewart.

Borror, Donald J. ANATOMY OF A BIRD-SONG. Mich. Conserv. 35(3): 14-16, illus. May-June 1966. WR 125: 34

[Ohio State Univ., Columbus.] Popular account of the use of spectrograms in the comparison of individual bird songs.

Brockway, B. F. EFFECTS OF CAPTURE AND CAGING ON THYROID ACTIVITY OF HOUSE SPARROWS (PASSER DOMESTICUS). Ohio J. Sci. 65: 130-137. 1965. [From Auk 83(4), 1966.] WR 125: 34

Cripps, Bernard J., Jr. THE NESTING CYCLE OF THE CHESTNUT-SIDED WARBLER. Raven 37(2): 43-48. June 1966. WR 125: 34

[2310 Sherman, North Muskegon, Mich.]

Curio, E., and P. Kramer. VOM MANGROVEFINKEN (CACTOSPIZA HELIOBATES SNODGRASS UND HELLER). [ON THE MANGROVE FINCH (CACTOSPIZA HELIOBATES SNODGRASS AND HELLER).] Z. Tierpsychol. 21: 223-234. 1964. [From Ibis 109(1), 1967. In German.] WR 125: 34

Abstract: The mangrove finch of Albemarle Island (Galapagos), like its close relative the woodpecker finch, uses a stick for poking insects from dead wood. This tool-using distinguishes the two species from all other Darwin's finches. The feeding habits, food and ecological differences of the two species are described.

Erard, C. SUR LES MOUVEMENTS MIGRATOIRES DU ROUGEGORGE ERITHACUS RUBECULA À L'AIDE DES DONNÉS DU FICHIER DE BAGUAGE FRANCAIS. [ON THE MIGRATORY MOVEMENTS OF THE ROBIN ERITHACUS RUBECULA FROM FRENCH BIRD-BANDING DATA.] Oiseau 36: 4-51. 1966. [From Ibis 109(1), 1967. In French.] WR 125: 34

A listing (complete?) and discussion of foreign recoveries in France (and North Africa), with summary of results elsewhere, and recoveries of birds marked in France. 18 maps.

Fabricius, E. CRUCIAL PERIODS IN THE DEVELOPMENT OF THE FOLLOWING RESPONSE IN YOUNG NIDIFUGOUS BIRDS. Z. Tierpsychol. 21: 326-337. 1964. [From Ibis 109(1), 1967.] WR 125: 34

A concise summary and discussion of the literature on some crucial periods in the development of the following response.

Ficken, Millicent S., and Robert W. Ficken. BEHAVIOR OF MYRTLE WARBLERS IN CAPTIVITY. Bird-Banding 37(4): 273-279. Oct. 1966. WR 125: 34

[Univ. Md., College Park.] The agonistic displays of myrtle warblers (Dendroica coronata) were similar to those reported for other species of Dendroica.--Courtesy/ Paul A. Stewart.

Ficken, Millicent S., and Robert W. Ficken. SINGING BEHAVIOUR OF BLUE-WINGED AND GOLDEN-WINGED WARBLERS AND THEIR HYBRIDS. Behaviour 28(1-2): 149-181, 8 figs. 1967. With German summ. WR 125: 35
[Univ. Md., College Park.]

Ficken, Robert W., and Millicent S. Ficken. A REVIEW OF SOME ASPECTS OF AVIAN FIELD ETHOLOGY. Auk 83(4): 637-661. Oct. 1966. WR 125: 35
[Univ. Md., College Park.] "Most of this paper deals with communication of birds. We have stressed particularly the analysis of displays, their evolution, and their relation to taxonomy--topics of great interest to systematic ornithologists as well as to ethologists. In addition, we discuss certain maintenance activities." [Long bibliography.]--Courtesy/ Paul A. Stewart.

Gibbon, Robert S. OBSERVATIONS ON THE BEHAVIOUR OF NESTING THREE-TOED WOODPECKERS, PICOIDES TRIDACTYLUS, IN CENTRAL NEW BRUNSWICK. Canadian Field-Nat. 80(4): 223-226, 1 fig. Oct.-Dec. 1966. WR 125: 35
[Stewiacke, Nova Scotia.]

Graber, Richard R., and Steven L. Wunderle. TELEMETRIC OBSERVATIONS OF A ROBIN (TURDUS MIGRATORIUS). Auk 83(4): 674-677, 2 figs. Oct. 1966. WR 125: 35
[Ill. Nat. Hist. Surv., Urbana.] A robin was marked with a radio transmitter and followed for parts of two days. It remained within a 28-acre tract of land.--Courtesy/ Paul A. Stewart.

Gwinner, E., and V. Dorka. BEOBACHTUNGEN AN ZILPZALP-FITIS-MICHSÄNGERN. [OBSERVATIONS ON THE CHIFFCHAFF / WILLOW WARBLER SONG.] Vogelwelt 86: 146-150. 1965. [From Ibis 109(1), 1967. In German.] WR 125: 35

Haftorn, Svein. EGGLEGGING OG RUGING HOS MEISER BASERT PA TEMPERTURMALINGER OG DIREKTE IAKTTAGELSER. [EGG-LAYING AND INCUBATION IN TITS BASED ON TEMPERATURE RECORDINGS AND DIRECT OBSERVATIONS.] Sterna 7(2): 49-102. 1966. [From Bird-Banding 38(1), 1967. In Norwegian with long English summ.] WR 125: 35
A five-year study of Parus major, P. palustris and P. ater.

Hubbs, Carl L., and Richard C. Banks. WANDERING ONTO THE EASTERN PACIFIC OCEAN OF AN EASTERN NORTH AMERICAN LAND BIRD, THE BAY-BREASTED WARBLER. Auk 83(4): 680-682. Oct. 1966. WR 125: 35
[Univ. Calif., San Diego.] Courtesy/ Paul A. Stewart.

Hussell, D. J. T., T. Davis, and R. D. Montgomerie. DIFFERENTIAL FALL MIGRATION OF ADULT AND IMMATURE LEAST FLYCATCHERS. Bird-Banding 38(1): 61-66. Jan. 1967. WR 125: 35
[Univ. Mich., Ann Arbor.] Most adult least flycatchers (Empidonax minimus) migrate through Long Point, Ontario, during the last half of July and first half of Aug. Most immatures migrate through from the second week of Aug. to the last of Sept.--From summ. Courtesy/ Paul A. Stewart.

Johnston, Richard F. SEASONAL VARIATION IN THE FOOD OF THE PURPLE MARTIN PROGNE SUBIS IN KANSAS. Ibis 109(1): 8-13, 1 fig. Jan. 1967. WR 125: 35
[Univ. Kans., Lawrence.] Summary: Stomach contents of 34 purple martins Progne subis and 90 netted samples of flying insects were analysed taxonomically and quantitatively and compared with one another. Insect food sources tend to become more abundant, taxonomically variable, and larger in size late in the season (August). Maximal availability of food thus coincides with maximal energy requirements of purple martins, which then are at peak numbers, initiating moult, accumulating fat and beginning migration.

Kahl, M. P. OBSERVATIONS ON THE BEHAVIOUR OF THE HAMERKOP SCOPUS UMBRETTA IN UGANDA. Ibis 109(1): 25-32. Jan. 1967. WR 125: 36
[P.O. Box 152, Nakuru, Kenya.] When all known aspects of the hamerkop's behavior are considered, there appears to be little similarity with either the herons or the storks. In fact, present behavioral evidence does not seem to indicate a particularly close relationship with any other birds so far studied.--From summ.

Labisky, Ronald F. OBSERVATIONS ON A ROBIN NEST: NEST TRANSLOCATION AND NESTLING MORTALITY. Bird-Banding 37(4): 288-289, 1 fig. Oct. 1966. WR 125: 36
[Ill. Nat. Hist. Surv., Urbana.] The partially constructed nest of a robin (Turdus migratorius) was moved 10.7 dm horizontally and 1.5 dm downward. Eggs were laid, and young hatched in the translocated nest, but the young died prematurely, presumably as a result of heat exposure.--Courtesy/ Paul A. Stewart.

Liddy, John. AUTUMNAL MIGRATION OF THE YELLOW-FACED HONEYEATER. Emu 66 (2): 87-103. Oct. 1966. WR 125: 36
[Wommin Bay Rd., North Kingscliff, New South Wales, Australia.] "Meliphaga chrysops."

Lowery, George H., Jr., and Robert J. Newman. A CONTINENTWIDE VIEW OF BIRD MIGRATION ON FOUR NIGHTS IN OCTOBER. Auk 83(4): 547-586, 15 figs. Oct. 1966. WR 125: 36
[La. State Univ., Baton Rouge.] Migration traffic in the western U.S. was inferior in quantity to the flights east of the Rockies. There was homogeneity in migration flights over larger areas in this eastern zone than in the western zone. Direction of movement at a given site was more nearly random than in spring movements. Data indicated that many migrants detoured around the Great Lakes and the Gulf of Mexico and did not follow rivers.--Courtesy/ Paul A. Stewart.

Morse, Douglass H. THE CONTEXT OF SONGS IN THE YELLOW WARBLER. Wilson Bull. 78(4): 444-455, 1 fig. Dec. 1966. WR 125: 36
[Univ. Md., College Park.] Features of the song of Dendroica petechia are correlated with the presence of others of the same species and of chestnut-sided warblers (D. pensylvanica).--Courtesy/ Paul A. Stewart.

Newton, I. THE ADAPTIVE RADIATION AND FEEDING ECOLOGY OF SOME BRITISH FINCHES. Ibis 109(1): 33-98, 1 fig. Jan. 1967. WR 125: 36
[Edward Grey Inst., Oxford, England.] The habitats and foods of ten species of finches studied near Oxford, England, are described in detail, and differences in feeding habits between them are related to differences in bill- and leg-structure, body-weight and behavior. The hawfinch, siskin, redpoll and crossbill live primarily in woodland, the greenfinch, linnet and goldfinch primarily in farmland, while the bullfinch and chaffinch breed, and occur throughout the year, in both these habitats. Habitat differences between species were probably more marked in primeval England than now, and the problems of studying animals in man-modified environments are discussed in this context.--From summ.

Niethammer, G. ON THE BREEDING BIOLOGY OF MONTIFRINGILLA THERESAE. Ibis 109(1): 117-118. Jan. 1967. WR 125: 36
[Zool. Forschungsinstitut & Museum Alexander Koenig, Bonn, Germany.]

Österlöv, Sten. KUNGSFÅGELNS (REGULUS REGULUS) FLYTTNING. [THE MIGRATION OF THE GOLDCREST.] Vår Fågelvärld 25: 49-56. 1966. [From Bird-Banding 38(1), 1967. In Swedish with English summ.] WR 125: 36

Penney, R. L., and J. T. Emlen. FURTHER EXPERIMENTS ON DISTANCE NAVIGATION IN THE ADELIE PENGUIN PYGOSCELIS ADELIAE. Ibis 109(1): 99-109, 4 figs. Jan. 1967. WR 125: 36
[Inst. Res. Animal Behavior, Rockefeller Univ., New York, N.Y.]

Phillips, J. H., and S. L. B. Lee. MOVEMENTS OF MANX SHEARWATERS OFF ERRIS HEAD, WESTERN IRELAND, IN THE AUTUMN. Bird Study 13(4): 284-296, 4 figs. Dec. 1966. WR 125: 37

Pinowski, J. DER JAHRESZYKLUS DER BRUTKOLONIE BEIM FELDSPERLING PASSER M. MONTANUS (L.). [THE ANNUAL CYCLE OF BREEDING COLONIES OF THE TREE SPARROW, PASSER M. MONTANUS (L.).] Ekologia Polska (A) 14: 145-172. 1966. [From Ibis 109(1), 1967. In German with Polish summ.] WR 125: 37

Power, Dennis M. AGONISTIC BEHAVIOR AND VOCALIZATIONS OF ORANGE-CHINNED PARAKEETS IN CAPTIVITY. Condor 68(6): 562-581, 13 figs. Nov.-Dec. 1966. WR 125: 37
[Univ. Kans., Lawrence.] Courtesy/ Paul A. Stewart.

Richardson, W. John. WEATHER AND LATE SPRING MIGRATION OF BIRDS INTO SOUTHERN ONTARIO. Wilson Bull. 78(4): 400-414. Dec. 1966. WR 125: 37
[4380 South Service Rd., Burlington, Ontario, Canada.] Migration occurs only when the temperature is relatively high and chiefly associated with warm following winds. There is a negative correlation between rain and migratory movement. Fronts, warm sectors, and changes in humidity showed significant correlations with the volume of bird migration, but these are not the proximate factors, rather they occur in association with the proximate factors.--From summ. Courtesy/ Paul A. Stewart.

Rogers, David T., Jr., and Eugene P. Odum. A STUDY OF AUTUMNAL POSTMIGRANT WEIGHTS AND VERNAL FATTENING OF NORTH AMERICAN MIGRANTS IN THE TROPICS. Wilson Bull. 78(4): 415-433, 6 figs. Dec. 1966. WR 125: 37
[Univ. Ala., University.] Autumn weights of trans-Gulf migrants in Panama and British Honduras were below the estimated fat-free weights for the species, suggesting that fat-free weight was used as an energy source. The spring accumulation of fat reserves sufficient for trans-Gulf flight occurred at different times in different species and sexes.--Courtesy/ Paul A. Stewart.

Shevareva, T. P. [POPULATION FEATURES OF BIRD MIGRATION.] Ornitologiya 7: 318-327. 1965. [From Bird-Banding 37(4), 1966. In Russian.] WR 125: 37

Short, L. L., Jr. FIELD SPARROW SINGS CHIPPING SPARROW SONG. Auk 83(4): 665. Oct. 1966. WR 125: 37
[Am. Museum Nat. Hist., New York, N.Y.] The singing bird was collected for identification.--Courtesy/ Paul A. Stewart.

Thomson, A. L. THE TRANSEQUATORIAL MIGRATION OF THE MANX SHEARWATER. Oiseau 35 (suppl.): 130-140. 1965. [From Ibis 109(1), 1967.] WR 125: 37
Analysis of 41 long-distance recoveries of Puffinus puffinus including one from Australia, two from Newfoundland and 38 from South America, and comparison with other southern hemisphere shearwaters. It is the only bird known so far to migrate regularly between Europe and South America.

Tretzel, E. IMITATION UND VARIATION VON SCHÄFERPFIFFEN DURCH HAUBENLERCHEN (GALERIDA C. CRISTATA (L.)), EIN BEISPIEL FÜR SPEZIELLE SPOTTMOTIV-PRÄDISPOSITION. [IMITATION AND VARIATION OF SHEPHERD WHISTLES BY CRESTED LARKS (GALERIDA C. CRISTATA (L.)), AN EXAMPLE OF MOCK MOTIF-PREDISPOSITION. Z. Tierpsychol. 22: 784-809. 1965. [From Ibis 109(1), 1967. In German.] WR 125: 37
This is the first time that the original and infrequent imitations of human whistles by birds in their natural habitat could be tape-recorded and objectively compared. The crested lark, Galerida cristata, in the vicinity of Erlangen, Bavaria, imitated the four different whistle commands which a shepherd gave to his dog.

Wahlström, Sten. EN AKUSTISK JÄMFÖRELSE MELLAN SÅNGEN HOS TRE OLIKA LOCUSTELLA-ARTER. [A COMPARATIVE STUDY OF THE SONGS OF THREE LOCUSTELLA SPECIES.] Vår Fågelvärld 25: 161-166. 1966. [From Bird-Banding 38(1), 1967. In Swedish with English summ.] WR 125: 38
"Locustella naevia, L. fluviatilis and L. luscinioides."

Willson, Mary F. POLYGAMY AMONG SWAMP SPARROWS. Auk 83(4): 666. Oct. 1966. WR 125: 38
[Univ. Ill., Champaign.] Of 12 males studied, 2 had more than one mate.--Courtesy/ Paul A. Stewart.

Yunick, Robert P. DATA GATHERED FROM THE REDPOLL FLIGHT OF 1966. Kingbird 16(4): 193-205, 3 figs. Oct. 1966. WR 125: 38
[1527 Myron St., Schenectady, N.Y.] "Of the 347 redpolls banded, the wings of 334 were measured, and of these 334, 325 birds were weighed. Weight data were correlated with the time of capture. The 334 birds were inspected for fat and their plumage noted."

Ziegler, G. BEOBACHTUNGEN AN SCHWARZKEHLCHEN SAXICOLA TORQUATA RUBICOLA IM NÖRDLICHEN TEIL DES KREISES MINDEN / WESTF. [OBSERVATIONS ON THE STONECHAT SAXICOLA TORQUATA RUBICOLA IN THE NORTHERN PART OF THE CIRCLE MINDEN / WESTPHALIA.] J. Ornithol. 107: 187-200. 1966. [From Ibis 109(1), 1967. In German.] WR 125: 38

Zimmerman, John L. POLYGYNY IN THE DICKCISSEL. Auk 83(4): 534-546, 3 figs. Oct. 1966. WR 125: 38
[Kans. State Univ., Manhattan.] In a population of dickcissels (Spiza americana) having equal numbers of males and females, 40% of the males were monogamous, 18% were polygynous, and 42% were bachelors. Additional mates were most often obtained by males when earlier mates were incubating. Territories of mated males were larger than those of unmated males, but there was no territory size difference between monogamous and polygynous males. Territories of bachelor and mated males also differed in features of vegetative cover. There were eggs of brown-headed cowbirds (Molothrus ater) in 78% of the nests, and this parasitism was responsible for failure of 16% of the nests.--Courtesy/ Paul A. Stewart.

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Clapp, Roger B., and Fred C. Sibley. NEW RECORDS OF BIRDS FROM THE PHOENIX AND LINE ISLANDS. Ibis 109(1): 122-125. Jan. 1967. WR 125: 38
[Smithsonian Inst., Washington, D.C.]

Etzdorf, T. J. R. von, and J. M. Winterbottom. A LIST OF THE BIRDS OF MOSSEL BAY DISTRICT. South African Avifauna Ser., Percy Fitzpatrick Inst. African Ornithol. no. 44. 22 p. 1967. 20¢. WR 125: 38

Irwin, M. P. Stuart, and C. W. Benson. NOTES ON THE BIRDS OF ZAMBIA. PART 1. Arnoldia 2(32): 1-19. 13 Oct. 1966. WR 125: 38

Jensen, R. A. C. THE BIRDS OF VICTORIA FALLS NATIONAL PARK, RHODESIA. South African Avifauna Ser., Percy Fitzpatrick Inst. African Ornithol. no. 33. p. 1-35 + 1 map. 1966. 30¢. WR 125: 38
[Univ. Calif., Davis.] Summary: A preliminary check-list of 345 species of birds from the Victoria Falls National Park is presented, with notes on their occurrence in the varied habitats of this 210-square-mile reserve.

Krpan, M. [THE BIRDS OF VIS ISLAND AND THE DALMATIAN ARCHIPELAGO.] Larus (16-18): 106-150. 1965. [From Auk 83(4), 1966. In Serbo-Croatian with German summ.] WR 125: 38

McCaskie, R. Guy, and Richard C. Banks. SUPPLEMENTAL LIST OF BIRDS OF SAN DIEGO COUNTY, CALIFORNIA. Trans. San Diego Soc. Nat. Hist. 14(12): 157-168. 10 June 1966. WR 125: 39
[San Diego, Calif.]

Rucner, R. [THE RELATION BETWEEN THE MEDITERRANEAN VEGETATION AND THE MEDITERRANEAN ORNITHOFAUNAL ELEMENTS ON THE BALKAN PENINSULA.] Larus (16-18): 79-105. 1965. [From Auk 83(4), 1966. In Serbo-Croatian with German summ.] WR 125: 39

Shuntov, V. P. [ON TUBINARES AND ALCIDS OF THE BERING SEA.] Ornitologiya 7: 276-286. 1965. [From Bird-Banding 37(4), 1966. In Russian.] WR 125: 39

Taylor, Robert R. SUMMARY OF THE FIRST EIGHT YEARS OF THE PRAIRIE NEST RECORDS SCHEME. Blue Jay 24(4): 180-181, illus. Dec. 1966. WR 125: 39
[Univ. Saskatchewan, Regina.]

Thompson, Max C. BIRDS FROM NORTH BORNEO. Univ. Kans. Publ., Museum Nat. Hist. 17(8): 377-433, 1 fig. 27 Oct. 1966. WR 125: 39
Sections on methods, zoogeography, ecology, and seasonality of breeding precede the annotated accounts of the species.

Vernon, C. J. THE ACACIA SAVANNA AVIFAUNA OF BULAWAYO, RHODESIA. South African Avifauna Ser., Percy Fitzpatrick Inst. African Ornithol. no. 43. 45 p. 1967. 20¢. WR 125: 39

Winterbottom, J. M. RESULTS OF THE PERCY FITZPATRICK INSTITUTE-WINDHOEK STATE MUSEUM JOINT ORNITHOLOGICAL EXPEDITIONS: 5. REPORT ON THE BIRDS OF THE KAOKOVELD AND KUNENE RIVER. Cimbebasia no. 19. p. 3-71, [1] fig. 1966. WR 125: 39
[Univ. Cape Town, Cape Town, South Africa.] Annotated list of 233 spp.

BIRDS--POPULATIONS & FLUCTUATIONS

Andrew, Dougal G. REVIEW OF ORNITHOLOGICAL CHANGES IN SCOTLAND IN 1965. Scottish Birds 4(4): 286-293. Winter 1966. WR 125: 39

Axell, H. E. ERUPTIONS OF BEARDED TITS DURING 1959-65. British Birds 59(12): 513-543, 8 figs. + 5 pls. Dec. 1966. WR 125: 39
[R.S.P.B. Reserve, Minsmere, Suffolk, England.] A rapid increase in the British population of bearded tits Panurus biarmicus has taken place in recent years, including a remarkable recovery from apparently near-extermination in 1947. In this connection, records of earlier distribution in Britain are reviewed. Eruptions began in the autumn of 1959 after a highly successful breeding season and have continued each year since then. Emigratory activity was studied at Minsmere, Suffolk, in the autumns of 1959-65. Reference is made to the huge build-up of the Dutch population in 1965, the resulting eruption and the first proven occurrences of Dutch birds in Britain. Evidence for the hypothesis that British stock had earlier been augmented by Continental immigrants is reviewed. Eruption activity of bearded tits, with high numbers as its proximal cause, is compared with that of tits Parus spp. and other invasion species.--From summ.

Blake, Charles H. PURPLE FINCHES AT HILLSBOROUGH, N. C., 1961-65. Bird-Banding 38(1): 1-17, 7 figs. Jan. 1967. WR 125: 39
[Museum Comp. Zool., Cambridge, Mass.] Numbers of purple finches (Carpodacus purpureus) banded were relatively high and low in successive years. High and low numbers also suggested a four-year cyclic pattern. Indicated life expectancy was three years.--Courtesy/ Paul A. Stewart.

Blondel, Jacques. LE CYCLE ANNUEL DES PASSEREAUX EN CAMARGUE. [THE ANNUAL CYCLE OF PASSERINES IN THE CAMARGUE.] Terre & Vie 1966(3): 271-294, 3 figs. July-Sept. 1966. In French with English and German summ. WR 125: 40
During 1956-1963 a total of 53,169 of 53 spp. were caught in mist nets and Heligoland traps. The residence status was determined and compared with data obtained from direct counts on line transects.

Brown, Woodward H. ANALYSIS OF A WINTER BIRD-POPULATION STUDY. Iowa Bird Life 36(3): 67-70, 2 figs. Sept. 1966. WR 125: 40
[4815 Ingersoll Ave., Des Moines, Iowa.] Chickadee, titmouse, nuthatch, downy woodpecker, house sparrow and starling populations on a 33-acre study area for the period 1954-1965.

Browne, Peter. STATUS OF BIRDS, LAKE ST. JOHN REGION, QUEBEC. Canadian Field-Nat. 81(1): 50-62. Jan.-Mar. 1967. WR 125: 40
[179 Radin Road, Arvida, Quebec.] Monthly indices on a logarithmic scale to base 10 are given for 199 spp. observed during 1956-1963.

Denton, J. Fred. THE MIGRATION AND ABUNDANCE OF BLACKBIRDS, TANAGERS AND FRINGILLIDS IN RICHMOND COUNTY, GEORGIA. Oriole 31(4): 43-46. Dec. 1966. WR 125: 40
[1510 Pendleton Rd., Augusta, Ga.]

Fisher, Harvey I. AERIAL CENSUS OF LAYSAN ALBATROSSES BREEDING ON MIDWAY ATOLL IN DECEMBER, 1962. Auk 83(4): 670-673. Oct. 1966. WR 125: 40
[Southern Ill. Univ., Carbondale.] The population of Laysan albatrosses on the Midway Island may have declined 25-50% between 1956 and 1963.--Courtesy/ Paul A. Stewart.

Haapanen, Antti, Ismo Ulmanen, and Jussi Valste. OBSERVATIONS ON THE BIRD FAUNA IN KOITILAISKAIRA (FINNISH LAPLAND). Ornis Fennica 43(2): 45-54, 2 figs. 1966. In English with Finnish summ. WR 125: 40
[Forest Res. Inst., Helsinki, Finland.]

Mustakallio, Pekka. LOUNAIS-SUOMEN SUOLINNUSTOSSA TAPAHTUNEISTA MUUTOKSISTA. [ON THE CHANGES IN THE BIRD FAUNA OF A MOOR ABOUT FIFTY KILOMETERS NORTH OF TURKU IN SOUTHWEST FINLAND.] Ornis Fennica 43(2): 70-76, 2 figs. 1966. In Finnish with German summ. WR 125: 40
For the period 1955-1965.

Parslow, J. L. F. CHANGES IN STATUS AMONG BREEDING BIRDS IN BRITAIN AND IRELAND. (PART I). British Birds 60(1): 2-47, 3 figs. Jan. 1967. WR 125: 40
Treats birds from loons through waterfowl and birds of prey.

Robbins, Sam. WISCONSIN'S SUMMER BIRD COUNT: 1961-1965. Passenger Pigeon 28(2): 47-62. Summer 1966. WR 125: 40
[Roberts, Wis.]

Silvola, Torsten. QUANTITATIVE OBSERVATIONS ON THE BIRD FAUNA IN THE FJELD AREA OF PAISTUNTURIT (InL) IN SUMMER 1960 AND 1964. Ornis Fennica 43(2): 60-70, 1 fig. 1966. In English with Finnish summ. WR 125: 40

Tompa, Frank Stephen. FACTORS DETERMINING THE NUMBERS OF SONG SPARROWS ON MANDARTE ISLAND, B. C. Ph.D. thesis, Univ. British Columbia. 147 p. 1964. [From Dissertation Abstr. 25(4), 1964.] WR 125: 40

Waters, Joseph H. AVIAN POPULATIONS IN A RECENTLY DISTURBED OLD FIELD SUCCESSION. Bird-Banding 38(1): 17-37, 1 fig. Jan. 1967. WR 125: 40
[Villanova Univ., Villanova, Pa.] The mixed hardwood areas had the most species and the xeric habitat the fewest. "If one considers the total area of housing developments in Plymouth County (Massachusetts) alone, probably between 50,000 and 100,000 breeding pairs of woodland birds have been permanently eliminated."--Courtesy/ Paul A. Stewart.

Webster, J. Dan. AN ANALYSIS OF WINTER BIRD-POPULATION STUDIES. Wilson Bull. 78(4): 456-461, 6 figs. Dec. 1966. WR 125: 41

[Hanover Coll., Hanover, Ind.] Bird density in temperate forests is dependent on the number of niches and the number of species available to occupy them. Numbers of species occupying similar habitats decline with increase in latitude, with a regression of 1.6 species per degree of latitude northward. Numbers of individuals per unit of area also decrease with increase in latitude, but at a decreasing rate as latitude increases.--Courtesy/ Paul A. Stewart.

Wiens, John A., and John T. Emlen. POST-INVASION STATUS OF THE DICKCISSEL IN SOUTHERN WISCONSIN. Passenger Pigeon 28(2): 63-69, 3 figs. Summer 1966. WR 125: 41

[Univ. Wis., Madison.] Summary: Roadside surveys showed that dickcissels, which increased about fifty fold in southern Wisconsin in 1964 decreased precipitously in 1965. Their range was more restricted to the southern and western areas of the state than in 1964, and the numbers within the area where the birds persisted declined by 60 to 75 percent. The preferred habitat in both years was alfalfa or mixed stands of alfalfa and grass; habitat selection was narrowed in 1965 with fewer birds found in short grass pastures and cornfields. Dickcissels showed an increased association with red-winged blackbirds in 1965, perhaps because of higher and more dispersed red-wing populations, perhaps because the narrowing of the dickcissel's ecological range brought it into greater habitat co-occupancy with red-wings. Except for a red-wing increase in areas of greatest dickcissel decline, the relatively constant level in totals of resident grassland species suggests that the dickcissel invasion was superimposed on the resident avifauna with little displacement of established species.

BIRDS--ECONOMICS, CONTROL, MORTALITY

Broekhuysen, G. J. AN ANALYSIS OF BIRD CASUALTIES ON THE ROADS IN THE SOUTH-WESTERN CAPE PROVINCE, SOUTH AFRICA. Oiseau 35 (suppl.): 35-51. 1965. [From Ibis 109(1), 1967.] WR 125: 41

Bird road casualties are compared with available records from Europe and North America, 72 species being identified. Accidents are about twice as numerous during the breeding season as outside it.

Gladkov, N. A., editor. [FISH-EATING BIRDS AND THEIR SIGNIFICANCE IN FISHERIES.] Acad. Sci. USSR Nauka (Moscow). 264 p. 1965. Price 1 ruble, 58 kopecks. [From Bird-Banding 37(4), 1966. In Russian.] WR 125: 41

Harford, Henry. TUFTED TITMOUSE DESTROYS BAGWORMS. Wilson Bull. 78(4): 474. Dec. 1966. WR 125: 41

[Route 1, Box 1192, Mount Dora, Fla.] A tufted titmouse (Parus bicolor) was seen eating a bagworm, after tearing open the bag.--Courtesy/ Paul A. Stewart.

Robbins, Chandler S. BIRDS AND AIRCRAFT ON MIDWAY ISLANDS / 1959-63 INVESTIGATIONS. US F&WS, Spec. Sci. Rept.--Wildl. no. 85. vi + 63 p., 10 figs. Oct. 1966. Price 40¢ from Supt. Documents, GPO. WR 125: 41

[Migratory Bird Populations Sta., Laurel, Md.] At Midway Naval Station, 1,100 miles west-northwest of Honolulu, military aircraft collide with flying albatrosses at the rate of about 300 to 400 per year. One aircraft out of every five that hits an albatross on takeoff either aborts (stops before it is airborne), or dumps fuel and returns for appraisal of damage. Control methods tested experimentally include disturbance; gunfire; other sounds; radar beams; smoke; odors; destruction of nests, eggs, chicks, and adults; moving of birds, eggs, and chicks; erection of obstacles to flight; and habitat management. Habitat management (leveling and hardsurfacing of shoulders of runways) has been the most effective. Studies of population dynamics of Laysan and black-footed albatrosses in 4 study plots (totaling 14.5 acres) are yielding information on nesting density, changes in nesting population from year to year,

frequency of nesting of individual birds, closeness of return, reproductive success, rate of nest loss, age at which young birds begin nesting, age composition of the population, and life expectancy of adults. Recommendations are made for reducing the bird hazard and for protecting birds that are not involved in the hazard.--From abstr.

Smith, Lawrie B. BIRD MORTALITY AT RADIO AND TV TOWERS NEAR WINNIPEG, SEPTEMBER 1965. Blue Jay 24(4): 172-176. Dec. 1966. WR 125: 42
[335 Haney St., Winnipeg, Manitoba.] Changes in species composition of mortalities are noted as the season progresses.

BIRDS--PARASITES & DISEASES

Anderson, Kathleen S., Robert J. Tonn, Elizabeth J. Randall, and Andrew Main. THE SWAMP SPARROW, MELOSPIZA GEORGIANA, AS A HOST FOR LONG-TERM ARBOVIRUS STUDIES. Bird-Banding 38(1): 80. Jan. 1967. WR 125: 42
[Lakeville Hospital, Middleboro, Mass.] "The purpose of this note is to call attention to the use of swamp sparrows as indicator hosts of Eastern (EE) and Western (WE) encephalitis activity."--Courtesy/ Paul A. Stewart.

Keirans, James E. SOME AVIAN ECTOPARASITES IN NEW ENGLAND. Entomological News 78(2): 40-42. Feb. 1967. WR 125: 42
[Durham, N.H.]

Newton, I., and I. C. Williams. A TREMATODE INFECTION OF BULLFINCHES PYRRHULA PYRRHULA. Ibis 109(1): 110-113 + 2 pls. Jan. 1967. WR 125: 42
[Edward Grey Inst., Oxford, England.]

Oosthuizen, J. H., and Miles B. Markus. THE HAEMATOZOA OF SOUTH AFRICAN BIRDS. I: BLOOD AND OTHER PARASITES OF TWO SPECIES OF GAME BIRDS. Ibis 109 (1): 115-117. Jan. 1967. WR 125: 42
[Univ. Pretoria, Pretoria, South Africa.] "Francolinus swainsonii" and "Numida meleagris."

Slater, Robert L. HELMINTHS OF THE ROBIN, TURDUS MIGRATORIUS RIDGWAY, FROM NORTHERN COLORADO. Am. Midland Nat. 77(1): 190-199. Jan. 1967. WR 125: 42
[Utah State Univ., Logan.] Eleven spp. of parasites were found in a sample of 62 robins. A summary of pertinent literature is presented, as well as new host and geographical records.--From summ.

GAME BIRDS--GENERAL

Liscinsky, Stephen A. RESUME OF 1965 GROUSE AND WOODCOCK HUNTING SURVEY. Pa. Game News 37(9): 8-11, illus. Sept. 1966. WR 125: 42
One hundred seventy-six grouse hunters averaged a flushing rate of 1.62 birds per hour during 8,055 hours afield. During 816 hours of hunting 1,417 woodcock were flushed, 768 flushes were shot at, and 421 woodcock were killed. This constitutes 1.73 flushes per hour, 54% shot at, and 55% of the woodcock shot at were killed.

QUAIL

Burger, George V., and Joseph P. Linduska. HABITAT MANAGEMENT RELATED TO BOBWHITE POPULATIONS AT REMINGTON FARMS. J. Wildl. Mgmt. 31(1): 1-12, 1 fig. Jan. 1967. WR 125: 42
[Max McGraw Wildl. Foundation, Dundee, Ill.] Abstract: Quail coveys on an experimental area on the Eastern Shore of Maryland increased from 5 to 38 in 8 years. All new coveys could be related to one or more specific management practices, and such practices rather than weather or other factors appeared to be responsible for increased quail numbers. Starting in 1957, a number of

soil, water, and wildlife conservation measures were applied on a 3,000-A. area of cropland, pasture, and woodland. Practices affecting bobwhite (Colinus virginianus) habitat included (1) creation and seeding of waterways and diversion terraces, (2) retirement and seeding under federal programs of headlands and borders of crop fields, and (3) establishment of plantings designed to improve farm-game habitat. Through 1964, these practices included seeding 49.4 acres to grass and 8.5 miles of 30-ft strips to sericea lespedeza (Lespedeza cuneata), and planting 7.1 miles of multiflora rose (Rosa multiflora) hedges and 14 acres of food-producing shrubs. Survival of plantings was excellent and growth was good. Land-use changes dictated by practical farming considerations, primarily fallowing odd areas and reducing grazing intensity, also improved quail habitat. The most effective habitat-improvement measures were planting multiflora hedges adjoining pasture or with an herbaceous border, planting strips of grass or sericea adjoining woody cover, and reducing grazing. Winter cover and nesting cover, not food, apparently were the most important requirements of the quail population. Coveys formed in conjunction with multiflora hedges appeared on an average of 3.7 years after hedge planting, and 2.6 years if an herbaceous border was planted with the hedge. Response to provision of nesting cover occurred within 2 years after seeding. Total cost of plantings was $2,800. With a 10-year minimum productive lifetime of plantings, cost amounted to approximately 65 cents per bird per year for additional quail produced by 1964.

Hosick, Howard L. THE INFLUENCE OF LIGHT INTENSITY ON OVIPOSITION OF THE COTURNIX QUAIL. Wilson Bull. 78(4): 434-443, 5 figs. Dec. 1966. WR 125: 43
[Univ. Calif., Berkeley.] Coturnix quail laid their eggs during periods of low light intensity.--From summ. Courtesy/ Paul A. Stewart.

Raitt, Ralph J., and Robert D. Ohmart. ANNUAL CYCLE OF REPRODUCTION AND MOLT IN GAMBEL QUAIL OF THE RIO GRANDE VALLEY, SOUTHERN NEW MEXICO. Condor 68 (6): 541-561, 7 figs. Nov.-Dec. 1966. WR 125: 43
[Univ. Ariz., Tucson.] Recrudescence of testes began in early Feb. and was complete in Apr. Increase in size of ovaries began about two weeks later than recrudescence of testes; laying began in mid-Apr. Gonadal regression began in both sexes in June but was variable among individual birds. Males with active testes were found throughout July, and egg-laying females were found in early August. Social organization and body weights varied with the stages of the reproductive cycle. Males were heavier than females in the nonbreeding season; laying females were heavier than males at the same season. The post-nuptial molt lasted approximately 21 days.--From summ. Courtesy/ Paul A. Stewart.

Rothstein, Robert. SOME OBSERVATIONS ON THE NESTING BEHAVIOR OF JAPANESE QUAIL (COTURNIX COTURNIX JAPONICA) IN PSEUDO-NATURAL CONDITIONS. Poultry Sci. 46(1): 260-262, 1 fig. Jan. 1967. WR 125: 43
[State Univ. N.Y., Farmingdale.]

Stettner, Laurence J., William J. Schultz, and Alan Levy. SUCCESSIVE REVERSAL LEARNING IN THE BOB-WHITE QUAIL (COLINUS VIRGINIANUS). Animal Behaviour 15(1): 1-5, 2 figs. Jan. 1967. WR 125: 43
[Wayne State Univ., Detroit, Mich.] Summary: Four bob-white quail (Colinus virginianus) were run on a series of twenty-five reversals of a discrimination involving simultaneous presentation of horizontal and vertical stripes. Analysis of five reversal blocks revealed a decrease in errors to criterion between the first and last block (t equals 2.50, P is less than 0.05). Closer analysis indicated that there was no improvement after the fourth reversal, and little improvement at all on the first twenty trials of each reversal. This 'limited' improvement is consistent with previous results for the pigeon, thus providing some support for use of reversal learning as a tool in comparative learning studies. Analysis of individual performances, however, brought out certain methodological problems primarily involving consideration of the influence of absolute levels of performance on progressive improvement trends.

Westemeier, Ronald L. APPARENT LEAD POISONING IN A WILD BOBWHITE. Wilson Bull. 78(4): 471-472, 1 fig. Dec. 1966. WR 125: 44

[Ill. Nat. Hist. Surv., Urbana.] An emaciated quail (Colinus virginianus) found dead had four lead shots in its gizzard.--Courtesy/ Paul A. Stewart.

PHEASANTS

Dahlgren, Robert. HUNTERS..."DON'T SHOOT"--HEN! S. Dak. Conserv. Digest 33(5): 6-7, illus. Sept.-Oct. 1966. WR 125: 44

"Fluoroscope shows hunters shot 13.3 percent of hen population during 1965 [cock] pheasant season."

Đuričić-Popović, Vera. NEUROSEKRETNA AKRIVNOST HIPOTAMULUSA FAZANA. [NEUROSECRET ACTIVITY OF PHEASANT HYPOTHALAMUS.] Jelen 4: 69-74, 5 figs. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 44

"Phasianus colchicus torquatus."

Harclerode, J., and J. J. Dropp. SEASONAL VARIATION IN THYROID GLAND ACTIVITY IN PHEASANTS. Ohio J. Sci. 66: 380-386. 1966. [From Auk 83(4), 1966.] WR 125: 44

Thyroids were most active in January and April and least active in July and October; generally an increased relationship between weight of the gland and activity was noted. Korean, Persian, green, and Reeves pheasants, of both sexes, were tested and some slight differences in response among the species did occur.

Hart, Dennis. EVOLVING PHEASANT POPULATIONS. Va. Wildl. 28(3): 10-11, 19, illus. Mar. 1967. WR 125: 44

"Virginia's participation in the exotics stocking program started in the fall of 1958. Through July 1966 our records show the release of 18,198 colchicus, 4,953 versicolor and 1,068 kalij pheasants, and 1,952 francolin partridge."

Hunter, Brian F., and Merton N. Rosen. OCCURRENCE OF LEAD POISONING IN A WILD PHEASANT (PHASIANUS COLCHICUS). Calif. Fish & Game 51(3): 207. July 1965. WR 125: 44

There were 29 lead shot or fragments thereof in the gizzard. The weight of the lead was 3.6 g.

Labisky, Ronald F., and Gary L. Jackson. CHARACTERISTICS OF EGG-LAYING AND EGGS OF YEARLING PHEASANTS. Wilson Bull. 78(4): 379-393, 4 figs. + 1 pl. Dec. 1966. WR 125: 44

[Ill. Nat. Hist. Surv., Urbana.] Nine yearling hen ring-necked pheasants (Phasianus colchicus) laid an average of 70.6 eggs in an average laying season of 90.4 days. Hens laid an average of 1.28 eggs per day per hen. The mean weight of eggs laid by yearling hens was 27.3 g and the average measurements 34.0 X 43.4 mm. Generally the first ten eggs laid by yearling hens were smaller than those laid later. Variability in the various features of the eggs was so great that eggs of yearlings could not reliably be separated from eggs of older birds.--From summ. Courtesy/ Paul A. Stewart.

Labisky, Ronald F., and Richard W. Lutz. RESPONSES OF WILD PHEASANTS TO SOLID-BLOCK APPLICATIONS OF ALDRIN. J. Wildl. Mgmt. 31(1): 13-24, 1 fig. Jan. 1967. WR 125: 44

[Ill. Nat. Hist. Surv., Urbana.] Abstract: The responses of wild pheasants (Phasianus colchicus) to single, aerial applications of 2 lb technical aldrin (Granular form) per acre on a 12,450- and a 29,880-acre block of farmland in eastern Illinois in April of 1960 and 1961, respectively, were divided into three major stages. First, the mortality of adult pheasants within a month of aldrin application was from 25 to 50 percent. Second, reproduction by surviving pheasants was severely depressed in the year of aldrin application as

evidenced by the meager abundance of chicks and the abnormally high proportion (52-56 percent) of broodless hens in summer, the low ratio (relative to the untreated study area) of young per adult hen in autumn, and reduced numbers of cock-calls the following spring. Third, satisfactory reproduction occurred on the treated areas during the breeding season following the year of aldrin application. Adequate recovery of pheasant populations in farmland habitat can be expected within 2-3 years after single, solid-block applications of 2 lb aldrin per acre if (1) the areas treated are not so large as to prevent adequate repopulation by ingress from adjacent, untreated habitat, and (2) the pheasants on the adjacent, untreated land area maintain their population levels.

Lamb, D. W., R. L. Linder, and Yvonne A. Greichus. DIELDRIN RESIDUES IN EGGS AND FAT OF PENNED PHEASANT HENS. J. Wildl. Mgmt. 31(1): 24-27. Jan. 1967. WR 125: 45

[S. Dak. State Univ., Brookings.] Abstract: Fat and egg yolks from pheasants administered different levels of dieldrin by capsule once a week for 13 weeks were analyzed for residues of the insecticide. Residues in egg yolks increased each week following treatment and decreased during a 14-day period after the final treatment. From 19 to 37 percent of the dieldrin administered was excreted via the egg yolk. At the conclusion of the experiment the dieldrin content of the fat was higher than that of the egg yolks in all but one bird. The difference in the level of residue in fat was found to be highly significant (P is less than 0.01) between treatment groups while the levels in the egg yolks were not significantly different (P is greater than 0.05) even though the average dieldrin content was greater for the higher treatment.

Nickell, Walter P. RING-NECKED PHEASANT MOVES NEWLY HATCHED YOUNG. Wilson Bull. 78(4): 472. Dec. 1966. WR 125: 45

[Cranbrook Inst. Sci., Bloomfield Hills, Mich.] A hen pheasant (Phasianus colchicus) moved her undried, newly-hatched young to an improvised nest 25 feet from the first nest as a result of disturbance by the observer.--Courtesy/ Paul A. Stewart.

Nickell, Walter P. RING-NECKED PHEASANTS HATCH IN NEST OF BLUE-WINGED TEAL. Wilson Bull. 78(4): 472-474, 1 fig. Dec. 1966. WR 125: 45

[Cranbrook Inst. Sci., Bloomfield Hills, Mich.] Several cases are reported of ring-necked pheasants (Phasianus colchicus) eggs being laid and/or hatched in nests of the blue-winged teal (Anas discors).--Courtesy/ Paul A. Stewart.

GROUSE, PARTRIDGE, ETC.

Jenkins, David, Adam Watson, and G. R. Miller. POPULATION FLUCTUATIONS IN THE RED GROUSE LAGOPUS LAGOPUS SCOTICUS. J. Animal Ecol. 36(1): 97-122, 5 figs. Feb. 1967. WR 125: 45

Changes in breeding density from one spring to the next were correlated with breeding success in the intervening summer on base-deficient and intermediate moors, but not on the base-rich moors where good breeding did not produce an increase in breeding stocks. Differences in the average breeding stocks over a number of years between moors on poor and rich rocks were associated with variable breeding success on the poor ground and consistently better breeding on the richer moors.--From summ.

Jones, Robert E. SPRING, SUMMER, AND FALL FOODS OF THE COLUMBIAN SHARP-TAILED GROUSE IN EASTERN WASHINGTON. Condor 68(6): 536-540. Nov.-Dec. 1966. WR 125: 45

[Univ. Del., Newark.] The two most important food plants were Poa secunda and Taraxacum officinale.--Courtesy/ Paul A. Stewart.

Miller, G. R., David Jenkins, and Adam Watson. HEATHER PERFORMANCE AND RED GROUSE POPULATIONS. I. VISUAL ESTIMATES OF HEATHER PERFORMANCE. J. Appl. Ecol. 3(2): 313-326. Nov. 1966. WR 125: 46

The breeding densities and breeding success of red grouse [Lagopus lagopus scoticus] were compared with the performance of their main food plant, heather, at seventeen study areas of 93-194 ha in north-east Scotland in 1959-61. Fluctuations in breeding densities from one spring to the next were not correlated with heather growth in the intervening summer. Consequently changes in breeding stocks were not due directly to quantitative variations in food production. Breeding success was correlated with heather growth and die-back in the preceding summer and winter. Thus breeding success was related to the amount of food available to breeding adults in winter and spring. Since changes in breeding density from one spring to the next were correlated with breeding success in the intervening summer, the size of the spring breeding stock was related to heather performance 12-21 months previously.--From summ.

Pepper, G. W. 1964 SEX AND AGE RATIOS OF SHARP-TAILED GROUSE AND GRAY (HUNGARIAN) PARTRIDGE. Saskatchewan Dept. Nat. Resources. 8 p. + 2 figs. + 6 p. of tables. Undated. WR 125: 46

Abstract: Age ratios of sharp-tailed grouse wing feathers indicated a slight reduction from 1963 in reproductive success. Those areas showing a high spring population showed higher productivity than those areas which recorded low spring populations. Slightly lower reproductive success was also experienced by gray (Hungarian) partridge. Cold, wet spring weather appears to have caused renesting of both species, resulting in lower productivity figures.

Pepper, G. W., and R. J. Quinn. 1965 SEX AND AGE RATIOS OF SHARP-TAILED GROUSE AND GRAY (HUNGARIAN) PARTRIDGE. Saskatchewan Dept. Nat. Resources. 9 p. + 1 fig. + 7 p. of tables. Undated. WR 125: 46

Abstract: Age ratios obtained from wings collected from hunters indicated low reproductive success for both sharp-tailed grouse and Hungarian partridge. Inclement weather during the nesting and hatching period is believed to have caused lower productivity, particularly in southern Saskatchewan. A sex ratio favoring males was found in Hungarian partridge. It is recommended to collect central tail feathers of sharp-tailed grouse for sexing purposes in 1966.

Stewart, Paul A. HOOTING OF SITKA BLUE GROUSE IN RELATION TO WEATHER, SEASON, AND TIME OF DAY. J. Wildl. Mgmt. 31(1): 28-34, 2 figs. Jan. 1967. WR 125: 46

[USDA, Agr. Res. Serv., Oxford, N.C.] Abstract: The hooting behavior of a population of Sitka blue grouse (Dendragapus obscurus sitkensis) was studied on Mitkof Island in southeastern Alaska, chiefly by counting hoots at different times and under different weather conditions. Hooting was first heard on April 7 and last on June 12, but a longer hooting season could be assumed for larger populations. Hooting was maximum on April 26 when 627 hoot-series were heard in 1 hour. Hooting began to decline 1 week after its peak. The level was high from April 24-May 6, and lower but still relatively high during May 7-15. Hooting then declined markedly; during some counting periods there was no hooting. Eight seconds was the shortest interval observed between hooting of individual birds. Early in the season, hooting was inhibited by inclement weather; after peak activity was reached, weather seemed to have no effect. Hooting started in the morning 58-95 min before sunrise and continued until 19-65 min after sunset, with a lull between 5:00 and 7:00 a.m.

Weeden, Robert B. MOLT OF PRIMARIES OF ADULT ROCK PTARMIGAN IN CENTRAL ALASKA. Auk 83(4): 587-596, 4 figs. Oct. 1966. WR 125: 46

[Alaska Dept. Fish & Game, Fairbanks.] The molt of primaries of male rock ptarmigan (Lagopus mutus) started when hens were incubating and territorial behavior was waning. Hens started molting 4-12 days after their chicks hatched. Molt proceeded faster early in the season than later.--From summ. Courtesy/ Paul A. Stewart.

West, George C., and Martha S. Meng. NUTRITION OF WILLOW PTARMIGAN IN NORTHERN ALASKA. Auk 83(4): 603-615, 5 figs. Oct. 1966. WR 125: 47
[Univ. Alaska, College.] The willow ptarmigan (Lagopus lagopus) secures most of its winter food from the willow (Salix alaxensis), in the form of twigs and buds.--Courtesy/ Paul A. Stewart.

Zwickel, F. C. SEX AND AGE RATIOS AND WEIGHTS OF CAPERCAILLIE FROM THE 1965-66 SHOOTING SEASON IN SCOTLAND. Scottish Birds 4(3): 209-214, 1 fig. Autumn 1966. WR 125: 47
[Marischal Coll., Aberdeen, Scotland.] Summary: A total of 117 capercaillie from the 1965-66 shooting season were examined for sex and age ratios in northeast Scotland. Weights were obtained from 109 of these birds. A sex ratio of 56 males to 100 females was found. This unbalanced ratio appears not to reflect that of birds in the wild but appears to be caused by biases relating to shooting. Only 21% of the birds were in their first winter. This is very low when compared to age ratios reported for most gallinaceous birds and suggests that Scottish capercaillie had a poor reproductive season in 1965. The mean weight of adult females was 45% that of adult males, and the mean weight of first-winter females was 51% that of first-winter males. Mean weights of first-winter birds suggest that females develop faster than males, in terms of body weight. Birds appear to reach a peak weight about November or early December, with a gradual decline starting in December and continuing into January.

Zwickel, Fred C., and James F. Bendell. A SNARE FOR CAPTURING BLUE GROUSE. J. Wildl. Mgmt. 31(1): 202-204, 1 fig. Jan. 1967. WR 125: 47
[Oreg. State Univ., Corvallis.] Abstract: With a "noosing pole" we have captured over 1,200 blue grouse (Dendragapus obscurus) and several other species of birds and two mammals. The device is a sliding noose on the end of a 10-20-ft pole.

TURKEY

Glazener, W. C., R. S. Cook, and D. O. Trainer. A SEROLOGIC STUDY OF DISEASES IN THE RIO GRANDE TURKEY. J. Wildl. Mgmt. 31(1): 34-39. Jan. 1967. WR 125: 47
[Welder Wildl. Foundation, Sinton, Texas.] Abstract: Sera from 202 Rio Grande turkeys (Meleagris gallopavo intermedia) live-trapped over a 3-year period (1963-65) on the Welder Wildlife Refuge in South Texas were subjected to serologic screening for the presence of specific antibodies. Few or no serologic reactors were detected against eastern viral encephalitis, western viral encephalitis, California viral encephalitis, Venezuelan viral encephalitis, encephalomyocarditis, mycoplasmosis, and salmonellosis. The most significant serologic finding was the presence of antibodies to Newcastle disease, St. Louis viral encephalitis, ornithosis, and vesicular stomatitis. The interpretation of these serologic results and the significance of these infections in wild turkeys are discussed.

DOVES & PIGEONS

Klinghammer, E., and E. Hess. PARENTAL FEEDING IN RING DOVES (STREPTOPELIA ROSEOGRISEA): INNATE OR LEARNED? Z. Tierpsychol. 21: 338-347. 1964. [From Ibis 109(1), 1967.] WR 125: 47

Lachner, R. UNTERSUCHUNGEN AN DER TÜRKENTAUBE STREPTOPELIA DECAOCTO ÜBER ALTERSKENNZEICHEN, GESCHLECTSDIMORPHISMUS UND MAUSER. [INVESTIGATION ON THE SEX AND AGE DETERMINATION AND MOLT OF THE COLLARED DOVE (STREPTOPELIA DECAOCTO).] Vogelwelt 86: 79-95. 1965. [From Ibis 109(1), 1967. In German.] WR 125: 47
An investigation of characters suitable for age and sex determination in the collared dove; the length and pattern of the rectrices are most useful.

Lofts, B., R. K. Murton, and N. J. Westwood. INTERSPECIFIC DIFFERENCES IN PHOTOSENSITIVITY BETWEEN THREE CLOSELY RELATED SPECIES OF PIGEONS. J. Zool. (London) 151: 17-25 + 1 pl. Jan. 1967. WR 125: 48

[Univ. London, London, England.] Abstract: It is known from field observations that vernal gonad recrudescence begins in January for the stock dove, a month later at the end of February for the wood pigeon, while many town pigeons (Columba livia) have active gonads throughout the year. Photostimulation experiments demonstrate that spermatogenesis can be stimulated in the stock dove by exposure to an artificial daylength regime increasing from 9.1 to 10.8 hours over 28 days. This photoperiod is the approximate equivalent of natural daylength changes occurring from late January onwards at 52° N. The same phototreatment, however, was not stimulatory for the testes of wood pigeons, which required the equivalent of a March photoperiod. Natural daylength changes occurring in late November and December failed to evoke gametogenetic recovery in stock dove controls. The gonads of feral pigeons in full breeding condition were unaffected when the subjects were transferred from full summer photoperiods to those found in midwinter and spermatogenesis was maintained in birds kept under winter daylengths for four months. The discussion mentions the problem of intraspecific geographical variation in photosensitivity. Scottish wood pigeons begin their gonad recovery earlier and by March have considerably larger testes than birds in the south of England. Furthermore, they achieve this more advanced condition before the vernal equinox when daylengths are shorter in Scotland than in the south of England.

Murton, R. K. NATURAL SELECTION AND THE BREEDING SEASONS OF THE STOCK DOVE AND WOOD PIGEON. Bird Study 13(4): 311-327, 3 figs. Dec. 1966. WR 125: 48

[Min. Agr., Fisheries & Food, Tangley Place, Worplesdon, Surrey, England.]

Smyth, Michael, and George A. Bartholomew. EFFECTS OF WATER DEPRIVATION AND SODIUM CHLORIDE ON THE BLOOD AND URINE OF THE MOURNING DOVE. Auk 83(4): 597-602, 1 fig. Oct. 1966. WR 125: 48

[Univ. Adelaide, Adelaide, South Australia.] Summary: In mourning doves, Zenaidura macroura, deprived of water for four days, the concentration of Na^+ and Cl^- in the plasma increased while body weight decreased. When the dehydrated birds were allowed to drink, the osmotic concentration fell to below normal values within 30 minutes. When the birds drank 0.2 m. NaCl, the osmotic concentration of plasma and urine increased, as did the Cl^- concentration of plasma and urine. The maximum Cl^- concentration in the urine following administration of NaCl by stomach tube averaged 335 mEq/l which is greater than the birds could maintain while drinking salt solutions, and exceeds the concentration of NaCl they can tolerate in their drinking water.--Courtesy/ Paul A. Stewart.

Stone, Charles P. DOVES AT YOUR DOOR. Colo. Outdoors 15(5): 36-37. Sept.-Oct. 1966. WR 125: 48

[Ohio Coop. Wildl. Res. Unit, Columbus.] Average number of breeding pairs per 150 acres for four habitat types in north-central Colo. was city (Fort Collins)--58.0, foothills--6.0, farmland--2.5 and shortgrass-shrub--1.0.

Wofford, Jim B. THE USE OF A CHEMOSTERILANT, SC-12937, TO REDUCE FERAL PIGEON POPULATIONS. M.S. thesis, Univ. Mo. iii + 50 p., 4 figs. Aug. 1966. WR 125: 48

The anti-cholesterol drug, SC-12937 (20-25-diazacholestanol dihydrochloride) was tested to reduce the populations of feral pigeons at three locations in central Missouri. The data indicate that treatment of pigeon populations should be made at least twice a year, preferably in early March before the height of the reproductive effort and in mid-summer when the pigeons begin to recover from the March treatment. Apparently, pigeon populations cannot be adequately reduced in a town unless all pigeons are treated. Also, due to the long reproductive life of the pigeon, a control method of this type would have to be continued for a number of years.--From summ.

Bjärvall, Anders. THE CRITICAL PERIOD AND THE INTERVAL BETWEEN HATCHING AND EXODUS IN MALLARD DUCKLINGS. Behaviour 28(1-2): 140-148, 1 fig. on 1 pl. 1967. With German summ. WR 125: 49

[Univ. Stockholm, Stockholm, Sweden.] Summary: Studies were made of the interval between hatching and exodus in the mallard. The difference in time between the hatching of the first and the last egg in one clutch varies from 3 to 8 hours. If two females have laid their eggs in the same nest, the difference can be up to 30 hours. The age of the ducklings at the time of departure is very often more than 16 hours, which is mentioned as the upper limit of the critical period, during which the imprintability of mallard ducklings reaches its maximum. Ducklings that are hatched in hole-nests are older at the time of exodus than are ducklings from the more usual mallard-nest situated on the ground. A factor contributing to this might be that the possibilities for visual and thus also for auditory imprinting are very limited in the first case and that the exodus from a hole-nest is an unconditioned response solely to auditory stimuli, in contrast to the departure from a nest on the ground, which is caused both by visual and auditory stimuli.

Buss, Irven O., and Larry D. Wing. PRE-IMPOUNDMENT OBSERVATIONS OF WINTERING MALLARDS AND NESTING CANADA GEESE ON THE SNAKE RIVER, SOUTHEAST WASHINGTON. Res. Studies 34(1): 1-36, [3] figs. + 7 figs. on 7 pls. Mar. 1966. WR 125: 49

Nesting studies of Canada geese were conducted on six islands of the Snake River in southeastern Washington from 1954 through 1965, except 1962. During 11 annual surveys 228 nests were studied. Common plants, particularly those that indicate stage of vegetational development, were recorded for each of the six islands that vary in size from 9.6 to 91.5 acres. The resident goose population on the study area maintained a level of approximately 4.5 to 8.5 geese per mile of river. The average nesting density for all years was 8.4 acres per nest. Variation in nesting density among islands was high, ranging from 1.5 to 31.6 acres per nest. The highest density of nests occurred on a relatively high and flood-free 10.2-acre island located near midstream, away from many disturbances and sparsely carpeted with grasses and herbs, that provided many good nesting sites.--From summ.

Chabreck, Robert H. MOLTING GADWALL (ANAS STREPERA) IN LOUISIANA. Auk 83 (4): 664. Oct. 1966. WR 125: 49

[Rockefeller Wildl. Refuge, Grand Chenier, La.] Eighteen flightless female gadwall were suspected of having migrated from a northern breeding ground before molting their flight feathers.--Courtesy/ Paul A. Stewart.

Ellingthorpe-White, Shawn L. WINTER POPULATIONS AND MOVEMENTS OF WILDFOWL AT THE FALSTERBO PENINSULA: JANUARY TO MARCH 1964. Vår Fågelvärld 25: 5-12. 1966. [From Bird-Banding 38(1), 1967.] WR 125: 49

Etienne, A. DER EINFLUSS VON TESTOSTERON AUF DAS VERHALTEN JUNGER STOCKENTEN (ANAS PLATYRHYNCHOS L.). [THE INFLUENCE OF TESTOSTERONE ON THE BEHAVIOR OF YOUNG MALE MALLARDS (ANAS PLATYRHYNCHOS L.).] Z. Tierpsychol. 21: 822-836. 1964. [From Ibis 109(1), 1967. In German.] WR 125: 49

Etienne, A., and H. Fischer. UNTERSUCHUNGEN ÜBER DAS VERHALTEN KASTRIERTER STOCKENTEN (ANAS PLATYRHYNCHOS L.) UND DESSEN BEEINFLUSSUNG DURCH TESTOSTERON. [INVESTIGATIONS ON THE BEHAVIOR OF CASTRATED MALLARDS (ANAS PLATYRHYNCHOS L.) AND THE EFFECTS OF TESTOSTERONE UPON THEM.] Z. Tierpsychol. 21: 348-358. 1964. [From Ibis 109(1), 1967. In German.] WR 125: 49

Fiala, V. [QUANTITATIVE CHANGES IN DUCKS OF THE NÁMEST LAKES DURING THE PERIOD 1885-1965.] Zoologické Listy 15: 5-22. 1966. [From Ibis 109(1), 1967. In Czech with German summ.] WR 125: 49

Gollop, James Bernard. DISPERSAL AND ANNUAL SURVIVAL OF THE MALLARD (ANAS PLATYRHYNCHOS). Ph.D. thesis, Univ. Saskatchewan. 186 p. 1965. [From Dissertation Abstr. 27(5B), 1966.] WR 125: 49

Grenquist, Pekka. CHANGES IN ABUNDANCE OF SOME DUCK AND SEA-BIRD POPULATIONS OFF THE COAST OF FINLAND 1949-1963. Finnish Game Res. 27. [i] + p. 5-114, 58 figs. 1966. WR 125: 50

The increase in the first half of the 1950's until 1953-55 was characteristic for the duck populations. After the hard winter of 1955/56 an interruption of this increase took place and the following development was characterized by the alternation of medium and somewhat better years, which strongly resembles the random oscillation characteristic of the changes in the weather-conditions, which can be observed as alternation of very mild and less mild or severe winters on the winter-grounds. This development of the duck populations beginning in the late 1940's and continuing during the first half of the 1950's was very similar to the abundance fluctuations of the ducks in the 1930's until 1937, due to the similar favorable weather- and climatic conditions during the two periods comprising 6-7 years.--From summ.

Grenquist, Pekka. A SUMMARY OF CHANGES IN ABUNDANCE OF FINNISH DUCK AND SEA-BIRD POPULATIONS IN FOUR SOUTHERN ARCHIPELAGO AREAS 1950-1962 AND SOME CAUSES INFLUENCING THEM. Finnish Game Res. 28: 3-8, 6 figs. 1966. WR 125: 50

In a late stage before printing the text of Changes in abundance of some duck and sea-bird populations off the coast of Finland 1949-1963 [above] was shortened to less than two-thirds of its former length. It seems that the reduced text has caused misunderstanding of the writer's view of the causes of the fluctuations in abundance of the duck and sea-bird species in the Finnish archipelago. This summary was written to avoid further misunderstandings.

Havlín, Jiří. BREEDING SUCCESS OF THE POCHARD AND THE TUFTED DUCK IN CZECHOSLOVAKIA. Bird Study 13(4): 306-310. Dec. 1966. WR 125: 50

[Inst. Vertebrate Zool., Czechoslovakian Acad. Sci., Brno, Czechoslovakia.]

Heyland, J. D., and William T. Munro. THE USE OF HELICOPTERS IN HUNTING WATERFOWL NESTS. J. Wildl. Mgmt. 31(1): 200-201. Jan. 1967. WR 125: 50

[Quebec Wildl. Serv., Quebec.]

Hori, John. OBSERVATIONS ON POCHARD AND TUFTED DUCK BREEDING BIOLOGY WITH PARTICULAR REFERENCE TO COLONISATION OF A HOME RANGE. Bird Study 13(4): 297-305, 2 figs. Dec. 1966. WR 125: 50

Hunt, Richard A. STOP SKYBUSTERS' POLLUTION! LEAD POISONING WASTES WATERFOWL. Wis. Conserv. Bull. 31(6): 18-19, illus. Nov.-Dec. 1966. WR 125: 50

[309 Birchcrest Rd., Horicon, Wis.] "Littering marshes with 12 million pounds of lead annually sets up a huge toxic banquet for ducks, geese and swans. It's possible to load shells with non-poisonous shot, but ammo makers probably won't do that so long as they can avoid it."

Hunt, Richard A., and Laurence R. Jahn. CANADA GOOSE BREEDING POPULATIONS IN WISCONSIN. Wis. Conserv. Dept. Tech. Bull. no. 38. 67 p., 13 figs. + unnumbered photos. 1966. WR 125: 50

The breeding population of Branta canadensis was virtually eliminated by 1900. Restoration projects such as that on the Necedah Natl. Wildl. Refuge, Horicon Marsh, Crex Meadows, Powell Marsh and others are evaluated. Canada goose restoration projects appear incompatible with wetland projects aimed at attracting large fall migrant goose populations for hunting purposes. Availability of suitable nesting habitat suggests, however, that a significant expansion of local breeding flocks can be achieved, primarily by reducing hunting mortality and, where necessary, increasing nesting success. In the forested region of Wisconsin, lack of young succulent vegetation for broods will probably limit population size, unless such food is provided through management efforts. In the agricultural region of Wisconsin, crop depredations will probably serve as an economic ceiling limiting the size of local flocks. These limitations can be minimized through intensive management of habitat and hunting regulations.--From abstr.

Isakov, Yu. A., editor. [WATERFOWL RESOURCES IN THE USSR AND THEIR MANAGEMENT.] Inf. Abstr. no. 5, Bur. Tech. Inf. Hdqtrs. Game Management & Reserves in the Council of Ministers RSFSR (Moscow). 62 p. 1965. Price 40 kopecks. [From Bird-Banding 37(4), 1966. In Russian.] WR 125: 51

Johnsgard, Paul A. SYMPATRY CHANGES AND HYBRIDIZATION INCIDENCE IN MALLARDS AND BLACK DUCKS. Am. Midland Nat. 77(1): 51-63, 4 figs. Jan. 1967. WR 125: 51
[Univ. Nebr., Lincoln.] Abstract: Changes in general fall and winter distributions of mallards and black ducks over the past century have resulted in markedly increased sympatric contact during pair formation between these two forms, and have been responsible for increased opportunities for hybridization. Bureau of Sport Fisheries and Wildlife records of hybrids from 34 states indicate a minimal current hybridization rate that is about 4% of the frequency expected on the basis of mating according to mathematical probabilities of chance contact. Thus, hybridization is most frequent where both forms are almost equally abundant, indicating that no reinforcement of differences reducing hybridization in the primary zone of contact is detectable. The primary zone of sympatry has moved eastward approximately 300 miles during the past half century and will almost certainly continue to do so. Owing to its much smaller gene pool, the black duck is vulnerable to eventual swamping through hybridization and introgression, although the present hybridization rate is sufficiently low as to make this unlikely in the foreseeable future.

Klein, David R. WATERFOWL IN THE ECONOMY OF THE ESKIMOS ON THE YUKON-KUSKOKWIM DELTA, ALASKA. Arctic 19(4): 319-336, 1 fig. Dec. 1966. WR 125: 51
[Alaska Coop. Wildl. Res. Unit, College.] Abstract: Use of waterfowl by Eskimos on the Yukon-Kuskokwim Delta amounts to approximately 83,000 geese and brant and 38,000 ducks annually with the greatest take occurring during the spring hunting period. About 5,500 swans and 1,000 cranes are also taken throughout the area and 40,000 eggs are gathered for use as food. Egg gathering and village drives of molting, flightless adult birds have decreased in importance in recent years, but spring hunting of waterfowl continues to be important as it coincides with the period of greatest need for food by the Eskimos.

Klopfer, P. H., and J. P. Hailman. BASIC PARAMETERS OF FOLLOWING AND IMPRINTING IN PRECOCIAL BIRDS. Z. Tierpsychol. 21: 755-762. 1964. [From Ibis 109(1), 1967.] WR 125: 51
"Ducklings."

McDaniel, Burruss, Donald Tuff, and Eric Bolen. EXTERNAL PARASITES OF THE BLACK-BELLIED TREE DUCK AND OTHER DENDROCYGNIDS. Wilson Bull. 78(4): 462-468, 2 figs. Dec. 1966. WR 125: 51
[Texas Coll. Arts & Industries, Kingsville.] Courtesy/ Paul A. Stewart.

Miller, Richard S. BUFFLEHEAD USES ARTIFICIAL NEST BOX. Blue Jay 24(4): 184-185. Dec. 1966. WR 125: 51
[Univ. Saskatchewan, Saskatoon.]

Nelson, Noland F. WATERFOWL HUNTING IN UTAH. Utah State Dept. Fish & Game Publ. no. 66-10. 100 p., 49 figs. 1966. WR 125: 51
More than 53% of the hunting trips and 35% of the waterfowl kill occurred on areas other than private clubs and managed public shooting areas. Much of this shooting was on private and public lands which were open to waterfowl hunting. From questionnaire data, the state-wide kill of ducks varied from a low of 106,000 ducks in 1947 to a high of 294,000 ducks in 1958. State-wide goose kill during the years checked averaged 7,030, of which 88% were Canada and 12% snows. Bonafide goose hunters killed 43% of all geese taken on goose-hunting trips, but 53% of the geese were shot in connection with duck-hunting trips. More than 90% of the state-wide duck kill and 65% of the goose kill occurred from Utah Lake northward. More than 90% of the waterfowl hunters resided in this section of the state.--From summ.

Rienecker, Warren C. A SUMMARY OF BAND RETURNS FROM LESSER SNOW GEESE (CHEN HYPERBOREA) OF THE PACIFIC FLYWAY. Calif. Fish & Game 51(3): 132-146, 2 figs. July 1965. WR 125: 52

Abstract: Population distribution and mortality rates were determined for the lesser snow goose population wintering in the Central Valley of California. Data were from geese banded from 1952 through 1963. The southward migration of snow geese into the Tule Lake area occurs along two distinct migration routes--one through Alaska, and the other through the Northwest Territories and Alberta. After a short period at Tule Lake they continue their migration south to the wintering grounds. Approximately one-half of the snow goose kill on the Pacific Flyway takes place in the Sacramento Valley. The average annual snow goose population turnover is 38.1 percent, with 28.7 percent taking place during the hunting season. Minor changes in hunting regulations would have little effect on the number of snow geese taken by hunters.

Tamisier, Alain. DISPERSION CREPUSCULAIRE DES SARCELLES D'HIVER ANAS CRECCA CRECCA L. EN RECHERCHE DE NOURRITURE. [CREPUSCULAR DISPERSION OF THE TEAL, ANAS CRECCA CRECCA L., WHILE SEARCHING FOR FOOD.] Terre & Vie 1966(3): 316-337, 7 figs. July-Sept. 1966. In French. WR 125: 52

[La Tour du Valat, Le Sambuc, Bouches-du-Rhône, France.]

Uspenskii, S. M. DIE WILDGANSE NORDEURASIENS. [THE WILD GEESE OF THE NORTHERN PALEARCTIC AREA.] Die Neue Brehm-Bucherei (Wittenberg) no. 352. 80 p., illus., paper covers. 1965. Price 6.80 E. German marks. [From Auk 83 (4), 1966. In German. Originally published in Russian.] WR 125: 52

Well-illustrated accounts of the eight goose species of the northern Palearctic area; maps relate distributions of the various geese to major biotic communities such as forest tundra, grassy tundra, moss-and-lichen tundra.

Vaught, Richard W., and Leo M. Kirsch. CANADA GEESE OF THE EASTERN PRAIRIE POPULATION, WITH SPECIAL REFERENCE TO THE SWAN LAKE FLOCK. Mo. Dept. Conserv., Tech. Bull. no. 3. xiii + 91 p., 9 figs. + photos and sketches. 1966. WR 125: 52

[Mo. Dept. Conserv., Jefferson City.] History, habitat management, populations, hunting, depredations and feeding program, banding, nesting range, seasonal distribution, harvest areas and trends, vulnerability and mortality, longevity, and management recommendations and techniques are major topics of discussion.

CRANES, RAILS, SHOREBIRDS

Arheimer, Ola, and Erik Nyholm. SMÅSNÄPPAN (CALIDRIS MINUTA) FÖR FÖRSTA GÅNGEN FUNNEN HÄCKANDE I SVERIGE. [LITTLE STINT FOUND BREEDING IN SWEDEN FOR THE FIRST TIME.] Vår Fågelvärld 25: 143-147. 1966. [From Bird-Banding 38 (1), 1967. In Swedish with English summ.] WR 125: 52

Barlow, John C. STATUS OF THE WOOD IBIS, THE FULVOUS TREE DUCK AND THE WHEATEAR IN ONTARIO. Canadian Field-Nat. 80(4): 183-186, 1 fig. Oct.-Dec. 1966. WR 125: 52

[Royal Ontario Museum, Toronto, Ontario, Canada.]

Brown, R. G. B., N. G. Blurton Jones, and D. J. T. Hussell. THE BREEDING BEHAVIOUR OF SABINE'S GULL, XEMA SABINI. Behaviour 28(1-2): 110-140, 4 figs. 1967. With German summ. WR 125: 52

[Dalhousie Univ., Halifax, Nova Scotia, Canada.] Much of Sabine's gull behavior is similar to that of other gulls, but there are some aberrancies which occur either rarely or not at all in other species. Chief among these are the Quarter Upright, the emphasis on Hunched, as opposed to Upright, postures, the attraction of unmated females by Arch-and-Bow rather than Long Call, the direct feeding (as opposed to regurgitation) of the female early in

the season, the rarity of head tossing in courtship feeding and copulation, and the throwback and Crouch in the Long Call postures. Evidently, Sabine's gull is behaviorally as well as morphologically aberrant. It seems to be most closely related to such species as Franklin's gull, Larus pipixcan.--From summ.

Emlen, John T., Don E. Miller, Roger M. Evans, and David H. Thompson. PREDATOR-INDUCED PARENTAL NEGLECT IN A RING-BILLED GULL COLONY. Auk 83(4): 677-679. Oct. 1966. WR 125: 53
[Univ. Wis., Madison.] Hatching success and young survival was greatly reduced as a result of parental attentiveness being disturbed by a raccoon.--Courtesy/ Paul A. Stewart.

Gauckler, A., and M. Kraus. ZUR BRUTBIOLOGIE DER GROSSEN ROHRDOMMEL (BOTAURUS STELLARIS). [ON THE BREEDING BIOLOGY OF THE BITTERN (BOTAURUS STELLARIS).] Vogelwelt 86: 129-146. 1965. [From Ibis 109(1), 1967. In German.] WR 125: 53
Observations on bitterns breeding in southern Germany during 1951-64.

Hailman, Jack Parker. THE ONTOGENY OF AN INSTINCT: THE PECKING RESPONSE IN CHICKS OF THE LAUGHING GULL (LARUS ATRICILLA L.) AND RELATED SPECIES. Ph.D. thesis, Duke Univ. 380 p. 1964. [From Dissertation Abstr. 25(4), 1964.] WR 125: 53

Holmes, Richard T. MOLT CYCLE OF THE RED-BACKED SANDPIPER (CALIDRIS ALPINA) IN WESTERN NORTH AMERICA. Auk 83(4): 517-533, 6 figs. Oct. 1966. WR 125: 53
[Tufts Univ., Medford, Mass.] Courtesy/ Paul A. Stewart.

Snow, D. W., and B. K. Snow. THE BREEDING CYCLE OF THE SWALLOW-TAILED GULL CREAGRUS FURCATUS. Ibis 109(1): 14-24, 2 figs. Jan. 1967. WR 125: 53
[British Trust for Ornithol., Tring, Hertfordshire, England.] General ecology, breeding cycle, seasonal pattern of breeding, and breeding success are major topics of discussion.

Southern, William E. COLONY SELECTION, LONGEVITY, AND RING-BILLED GULL POPULATIONS: PRELIMINARY DISCUSSION. Bird-Banding 38(1): 52-60, 1 fig. Jan. 1967. WR 125: 53
[Northern Ill. Univ., DeKalb.] Ring-billed gulls (Larus delawarensis) select their first breeding colony at random from those available within a particular range of latitudes and longitudes. After once nesting in a colony, the birds usually continue with the same colony as long as conditions remain favorable for nesting.--From summ. Courtesy/ Paul A. Stewart.

Stephen, William John Douglas. BIONOMICS OF THE SANDHILL CRANE. Ph.D. thesis, Univ. Saskatchewan. 176 p. 1965. [From Dissertation Abstr. 27(5B), 1966.] WR 125: 53
Sandhill cranes cause damage to commercial crops by both consumption and trampling of ripened unthreshed grain. Provision of supplementary feeding areas and use of acetylene exploders to control the birds are cheaper than payments for damage to crops. This method of controlling damage is cheaper and fewer farmers are exposed to damage than if acetylene exploders are used alone.

Vernon, J. D. R., and T. P. Walsh. THE COMMON GULL IN THE SEVERN ESTUARY IN RELATION TO FEEDING AREAS, ROOST SITES AND BEHAVIOUR. Proc. Bristol Nat. Soc. 1965: 173-184. 1966. [From Ibis 109(1), 1967.] WR 125: 53

Brogmus, H. KÄLTEWINTER UND GREIFVÖGEL. [SEVERE WINTER AND BIRDS OF PREY.] Tier & Umwelt, N.F., H. 3: 1-34. 1966. [From Ibis 109(1), 1967. In German.] WR 125: 54

Deals with the effects of the extremely severe winter 1962/63 on birds of prey, in particular on Buteo buteo, Accipiter gentilis and Falco tinnunculus, on the basis of data from W. Germany and some from Austria, CSSR, Norway and Great Britain.

Davis, D. Wayne. A PLEA FOR CONSERVATION OF THE BALD EAGLE IN SASKATCHEWAN. Blue Jay 24(4): 160-167. Dec. 1966. WR 125: 54
[Univ. Ark., Fayetteville.]

Elliott, Lowry. BIRDS OF PREY, 1960. S. Dak. Bird Notes 19(1): 4-6, 10, 13. Mar. 1967. WR 125: 54
"Northeastern South Dakota."

Gothe, J. DROH- UND BESCHWICHTIGUNGSGEBÄRDEN BEIM MÄUSEBUSSARD (BUTEO BUTEO L.). [THREATENING AND APPEASEMENT DISPLAYS OF THE BUZZARD (BUTEO BUTEO L.).] Z. Tierpsychol. 21: 749-754. 1964. [From Ibis 109(1), 1967. In German.] WR 125: 54

Hemphill, Ernest. NOTES ON BEHAVIOR OF NESTING COOPER'S HAWKS. Kingbird 16(4): 206-209. Oct. 1966. WR 125: 54
[440 Forest Home Drive, Ithaca, N.Y.]

Henriksson, Kurt, Eeva Karppanen, and Matti Helminen. HIGH RESIDUE OF MERCURY IN FINNISH WHITE-TAILED EAGLES. Ornis Fennica 43(2): 38-45. 1966. In English with Finnish summ. WR 125: 54
[State Vet. Med. Inst., Helsinki, Finland.] Conclusion: The high level of mercury and organochlorine compounds found in the white-tailed eagles [Haliaëtus albicilla] investigated strongly supports the assumption that the recent decline of the species in Finland is mainly caused by pesticide contamination. This contamination seems to increase the mortality of the fully-grown birds and is assumed to be the cause of the reduced reproductive success.

Kury, Channing R. OSPREY NESTING SURVEY. Wilson Bull. 78(4): 470. Dec. 1966. WR 125: 54
[246 Arch St., Sunbury, Pa.] Production of young in 13 nests of Pandion haliaëtus was 12.5% of that estimated it should have been.--Courtesy/ Paul A. Stewart.

Kuyt, E. TWO BANDING RETURNS FOR GOLDEN EAGLE AND PEREGRINE FALCON. Bird-Banding 38(1): 78-79, 1 fig. Jan. 1967. WR 125: 54
[Canadian Wildl. Serv., Fort Smith, Northwest Territories.] A golden eagle (Aquila chrysaëtos) traveled about 1,000 miles in a month, and a peregrine falcon (Falco peregrinus) traveled 9,000 miles in four months.--Courtesy/ Paul A. Stewart.

Lawick-Goodall, Jan van, and Hugo van Lawick-Goodall. USE OF TOOLS BY THE EGYPTIAN VULTURE, NEOPHRON PERCNOPTERUS. Nature 212(5069): 1468-1469, 3 figs. 24 Dec. 1966. WR 125: 54
Stones are used by the vultures to open ostrich eggs. Only other free-living vertebrates (besides man) that use tools are the chimpanzee, the gorilla, the California sea otter and the Galapagos woodpecker finch.

Lindberg, Peter. INVASIONEN AV SPARVUGGLA (GLAUCIDIUM PASSERINUM) I SÖDRA SKANDINAVIEN 1963-64. [THE IRRUPTION OF THE PYGMY OWL INTO SOUTHERN SCANDINAVIA 1963-64.] Vår Fågelvärld 25: 106-142. 1966. [From Bird-Banding 38(1), 1967. In Swedish with English summ.] WR 125: 54

Lindhe, Ulla. EN UNDERSÖKNING AV PÄRLUGGLANS (AEGOLIUS FUNEREUS) BYTESVAL I SW LAPPLAND. [AN INVESTIGATION INTO THE PREY SELECTION OF THE BOREAL OWL IN SOUTHWESTERN LAPLAND.] Vår Fågelvärld 25: 40-48. 1966. [From Bird-Banding 38 (1), 1967. In Swedish with English summ.] WR 125: 55

Mayr, Ernst. HUMMINGBIRD CAUGHT BY SPARROW HAWK. Auk 83(4): 664. Oct. 1966. WR 125: 55
[Harvard Univ., Cambridge, Mass.] Courtesy/ Paul A. Stewart.

Mueller, Helmut C., and Daniel D. Berger. ABNORMALITIES IN THE REMIGES AND THE RECTRICES OF THE SAW-WHET OWL. Bird-Banding 37(4): 287. Oct. 1966. WR 125: 55
[Univ. N.C., Chapel Hill.] Abnormal numbers of wing and tail feathers among saw-whet owls (Aegolius acadia) are reported.--Courtesy/ Paul A. Stewart.

Mueller, Helmut C., Nancy S. Mueller, and Robert W. Mueller. ROUGH-LEGGED HAWK CATCHES FISH. Wilson Bull. 78(4): 470. Dec. 1966. WR 125: 55
[Univ. N.C., Chapel Hill.] A rough-legged hawk (Buteo lagopus) captured fish "in the manner of an osprey."--Courtesy/ Paul A. Stewart.

Olson, Storrs L., Horace Loftin, and John Wiese. OBSERVATIONS ON THE BEHAVIOR OF BLACK AND TURKEY VULTURES AT TRAPS AND IN CAPTIVITY. Bird-Banding 38(1): 75-76. Jan. 1967. WR 125: 55
[Univ. Fla., Gainesville.] Trapping methods, behavior around the traps, and behavior of Coragyps atratus and Cathartes aura.--Courtesy/ Paul A. Stewart.

Prestt, Ian, and A. A. Bell. AN OBJECTIVE METHOD OF RECORDING BREEDING DISTRIBUTION OF COMMON BIRDS OF PREY IN BRITAIN. Bird Study 13(4): 277-283, 3 figs. Dec. 1966. WR 125: 55
[Monks Wood Expt1. Sta., Huntingdon, England.]

Schmid, Frederick C. THE STATUS OF THE OSPREY IN CAPE MAY COUNTY, NEW JERSEY BETWEEN 1939 AND 1963. Chesapeake Sci. 7(4): 220-223, 2 figs. Dec. 1966. WR 125: 55
[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: Comparison is made of the population of ospreys in Cape May County, N.J., in the late 1930's with that in 1963, and with a population of these birds at Tilghman Island, Maryland. Production of young per nest in the 1930's compares favorably with the production of young in the populations examined in 1963. It is suggested, based on historical evidence, that a decline in the numbers of these birds has been going on for some time. Acceleration of this decline in New Jersey is more obvious in the years covered by this paper.

Sealy, Spencer G. NOTES ON THE ROUGH-LEGGED HAWK IN THE PERRY RIVER REGION, NORTHWEST TERRITORIES. Blue Jay 24(3): 127-128. Sept. 1966. WR 125: 55
[Univ. British Columbia, Vancouver, Canada.] Nesting and food habits of Buteo lagopus.

Sealy, Spencer G. THE PEREGRINE FALCON IN THE PERRY RIVER AREA, NORTHWEST TERRITORIES. Bird-Banding 38(1): 73-75. Jan. 1967. WR 125: 55
[Univ. British Columbia, Vancouver, Canada.] The average clutch size of four nests of Falco peregrinus was 2.8 eggs and the hatching success was 63.6%.--Courtesy/ Paul A. Stewart.

Sindelar, Charles, Jr. A COMPARISON OF FIVE CONSECUTIVE SNOWY OWL INVASIONS IN WISCONSIN. Passenger Pigeon 28(3): 103-108, 5 figs. Autumn 1966. WR 125: 55
[425 Union St., Stevens Point, Wis.] For winters 1960-61 through 1964-65.

Steirly, C. C. BLACK VULTURES ATTACKING PIGS. Raven 37(3): 65. Sept. 1966. WR 125: 55
[Va. Div. Forestry, Waverly.]

Weir, Douglas N. AN INVESTIGATION INTO THE RECENT DECLINE OF THE BARN OWL ON AN AYRSHIRE ESTATE. Scottish Birds 4(3): 214-218. Autumn 1966. WR 125: 56

Summary: The decline of three pairs of barn owls in a 2000 acre area of north Ayshire was investigated between 1954 and 1965; all bred regularly up to 1955 but none bred after 1961. The nest sites and hunting ranges are described. The status of other raptors is examined and a decrease in the sparrowhawk and fluctuations in the long-eared owl breeding populations are noted. Human activities in relation to barn owls are noted as disturbance or destruction, farming or forestry work physically affecting ranges, and the local use of chlorinated hydrocarbon chemicals. The diet of one pair is examined. The data are discussed and it is suggested that the cause or causes of the decline cannot be shown but that the species was decreasing in an adjacent, more favourable, region and therefore quite minor man-induced checks were sufficient to precipitate withdrawal from this marginal ground. This point is relevant to conservation practice.

BLACKBIRDS, STARLINGS, CROWS

Besser, Jerome F., Willis C. Royall, Jr., and John W. DeGrazio. BAITING STARLINGS WITH DRC-1339 AT A CATTLE FEEDLOT. J. Wildl. Mgmt. 31(1): 48-51. Jan. 1967. WR 125: 56

[Bur. Sport Fisheries & Wildl., Denver, Colo.] Abstract: Starlings (Sturnus vulgaris) have become a serious problem in cattle feedlots in the northern part of their wintering range in the West. The initial field trial of 3-chloro-p-toluidine hydrochloride (DRC-1339), a new slow-acting avicide, was made on an isolated starling population in Nevada in January, 1963. Ten pounds of 1 percent DRC-1339-treated poultry pellets, spread at a 2-acre cattle feedlot, reduced the population of 2,280 starlings by about 75 percent. Almost all that were killed took the bait within 2 hours after it was exposed. Most died in a coma within 48 hours, about half of them in the roost. Approximately 4 percent of the Brewer's blackbirds (Euphagus cyanocephalus) that fed at the lot were also killed, but seven other species of birds were evidently not harmed. No secondary hazards were noted.

Bevan, D. STARLING ROOSTS IN WOODLAND. Quart. J. Forestry 66: 59-62. 1962. [From Ibis 109(1), 1967.] WR 125: 56

Burtt, Harold E., and Maurice Giltz. RECOVERIES OF STARLINGS BANDED AT COLUMBUS, OHIO. Bird-Banding 37(4): 267-273, 3 figs. Oct. 1966. WR 125: 56

[Ohio State Univ., Columbus.] Of 16,676 starlings (Sturnus vulgaris) banded in central Ohio in the winter of 1963-64, only 192 were recovered. Migratory movements were chiefly to the northeast and southwest.--Courtesy/ Paul A. Stewart.

Collins, V. Bruce, and Antoon de Vos. A NESTING STUDY OF THE STARLING NEAR GUELPH, ONTARIO. Auk 83(4): 623-638, 2 figs. Oct. 1966. WR 125: 56

[Ontario Forest Ranger School, Dorset, Ontario, Canada.] Based on observations made at 180 nesting boxes during three years. Time of breeding, egg laying, clutch size, number of young, and nesting success of Sturnus vulgaris.--Courtesy/ Paul A. Stewart.

Delvingt, W. SUR L'EVOLUTION DES POPULATIONS EUROPÉENNES DE STURNUS VULGARIS DEPUIS UN SIECLE. [ON THE EVOLUTION OF EUROPEAN POPULATIONS OF STARLINGS DURING A CENTURY.] Ann. Soc. Zool. Belg. 91: 29-38. 1961. [From Ibis 109(1), 1967. In French.] WR 125: 56

During the last century starlings have come to roost in towns, have extended their range and increased their numbers. The roles of predators, disease, climatic factors and food as possible factors causing these changes are discussed. The paper ends with a discussion of basic principles for scientifically-based protection of birds. (A translation from the French by D. D. Harber is deposited in the Alexander Library at the Edward Grey Institute.)

Drycz, A. [DISTRIBUTION OF THE BREEDING COLONIES OF THE ROOK CORVUS FRUGILEGUS (L.) IN POLAND.] Acta Ornithol. 9: 227-241. 1966. [From Ibis 109(1), 1967. In Polish with Russian and English summ.] WR 125: 57
Based on a country-wide inquiry. The study gives the distribution of breeding colonies; correlation between the density of colonies and their size; the size and age of colonies, and an analysis of factors influencing their distribution.

Gensdorf, E. BEOBACHTUNGEN ÜBER DAS VERHALTEN VON VOGELSCHWÄRMEN. [OBSERVATIONS ON THE BEHAVIOR OF BIRD FLOCKS.] Z. Tierpsychol. 23(1): 37-44. 1966. [From Bird-Banding 37(4), 1966. In German with English summ.] WR 125: 57
"Flocks of starlings (Sturnus vulgaris) may actively pursue avian predators; sometimes the enemy is driven into the open water and drowns."

Gwinner, E. UNTERSUCHUNGEN ÜBER DAS AUSTRUCKS- UND SOZIALVERHALTEN DES KOLKRABEN (CORVUS CORAX CORAX L.). [INVESTIGATIONS ON THE CALLS AND SOCIAL BEHAVIOR OF THE RAVEN (CORVUS CORAX CORAX L.).] Z. Tierpsychol. 21: 657-748. 1964. [From Ibis 109(1), 1967. In German.] WR 125: 57
A comprehensive, well-illustrated and documented study of the calls, social behavior, courtship and agonistic displays of the raven, based on observations and experiments with 18 hand-reared individuals. The role of the eyes in social communication is stressed. Vocal signals are modified by individual experience and allow members of a pair not only to recognize one another, but also to call the distant partner back by imitating his repertoire. Impressed by the considerable individual variability of calls and displays in the raven, the author devotes a section to the topic of plasticity. The motivations associated with the various displays are discussed, aspects of social hierarchy and of rivalries, pair-formation and courtship are dealt with in detail.

Gwinner, Eberhard. UEBER EINIGE BEWEGUNGSSPIELE DES KOLKRABEN (CORVUS CORAX L.). [SOME PLAY MOVEMENTS OF THE RAVEN.] Z. Tierpsychol. 23(1): 28-36. 1966. [From Bird-Banding 37(4), 1966. In German with English summ.] WR 125: 57

Hewitt, Oliver H. A ROAD-COUNT INDEX TO BREEDING POPULATIONS OF RED-WINGED BLACKBIRDS. J. Wildl. Mgmt. 31(1): 39-47. Jan. 1967. WR 125: 57
[Cornell Univ., Ithaca, N.Y.] Abstract: A roadside-count method of censusing breeding male red-winged blackbirds was developed, employing the Petersen or Lincoln index principle of mark and recapture but without the necessity for trapping, marking, or recapturing specimens. Territorial male redwings are "marked" according to tape-recorded descriptions of their territories and surroundings, and "recaptures" are obtained by running a prescribed route again immediately, with the tape playing. The method can be used by one man driving a car. Thus it is far quicker and less expensive than other mark-and-recapture techniques. The fact that the animals are not handled or even disturbed may account for a high degree of accuracy obtained. Success of the method depends on conspicuous territorial behavior of the species, and the observer's intimate knowledge of the species.

Pivar, G. [THE BIOLOGICAL-ECONOMIC IMPORTANCE OF THE ROOK, CORVUS F. FRUGILEGUS L., IN THE CROPLAND OF EASTERN SLAVONIA.] Larus (16-18): 159-280. 1965. [From Auk 83(4), 1966. In Serbo-Croatian with German summ.] WR 125: 57

Pivar, Gojko A. PRILOG POZNAVANJU BIOLOŠKOG UTICAJA SIVE VRANE (CORVUS CORNIX L.) NA PTICE MOČVARICE KOPAČEVSKOG RITA I OKOLICE. [ON THE BIOLOGICAL INFLUENCE OF THE HOODED CROW (CORVUS CORNIX L.) ON WATERFOWL OF THE KOPAČEVO MARSH AND ITS SURROUNDINGS.] Jelen 4: 85-90. 1966. In Serbo-Croatian with Russian and English summ. WR 125: 57
It has been ascertained that hooded crow endangers at the time, more or less, 21 species of waterfowl as follows: Anas platyrhynchos, Fulica atra, Nycticorax nycticorax, Ardeola ralloides, Ardea purpurea, Ardea cinerea, Larus ridibundus,

Egretta garazetta, Podiceps cristatus, Ciconia ciconia, Nyroca nyroca, Sterna hirundo, Chlidonias hybrida, Podiceps ruficollis, Chlidonias nigra, Phalacrocorax carbo, Anser anser, Anas querquedula, Ixobrychus minutus, Ciconia nigra, Egretta alba.--From summ.

OTHER BIRDS

Berger, Andrew J. MID-WINTER NESTING OF THE AMERICAN ROBIN IN WESTERN PENNSYLVANIA. Auk 83(4): 668. Oct. 1966. WR 125: 58
[Univ. Hawaii, Honolulu.] A robin (Turdus migratorius) incubated eggs during the period 4-20 Jan.

Bigot, Louis. LE COMPORTEMENT ALIMENTAIRE ET LES BIOTOPES D'ALIMENTATION DE LA PIE (PICA PICA L.) EN CAMARGUE. [THE FEEDING HABITS AND FEEDING HABITATS OF THE MAGPIE (PICA PICA L.) IN CAMARGUE.] Terre & Vie 1966(3): 295-315, 2 figs. July-Sept. 1966. In French. WR 125: 58
[Lab. Psychophysiol. Comparée, C.N.R.S., Marseille, France.]

Holloway, Harry L., Jr. NOTES ON THE LIFE CYCLE OF THE INDIGO BUNTING. Raven 37(4): 77-80. Dec. 1966. WR 125: 58
[Roanoke Coll., Salem, Va.]

Immelmann, Klaus. NOTES ON THE BREEDING BIOLOGY OF THE WHITE-WINGED TRILLER, LALAGE SUEURII TRICOLOR SWAINSON, IN NORTH-WESTERN AUSTRALIA. Emu 66(1): 1-15, 2 figs. + 1 pl. June 1966. WR 125: 58
[Zool. Inst., Pockelstrasse 10A, Braunschweig, Germany.]

Löhrl, H. ZUR BIOLOGIE DER TRAUERMEISE (PARUS LUGUBRIS). [ON THE BIOLOGY OF THE SOMBRE TIT (PARUS LUGUBRIS).] J. Ornithol. 107: 167-186. 1966. [From Ibis 109(1), 1967. In German.] WR 125: 58
"In Yugoslavia."

Phillips, Allan R. SOME UNUSUAL VIREOS. Bird-Banding 37(4): 286-287. Oct. 1966. WR 125: 58
[Univ. Nacional Autônoma de México.] Two partially albinistic gray vireos (Vireo vicinior) are reported.--Courtesy/ Paul A. Stewart.

Walkinshaw, Lawrence H. STUDIES OF THE ACADIAN FLYCATCHER IN MICHIGAN. Bird-Banding 37(4): 227-257, 9 figs. Oct. 1966. WR 125: 58
[1703 Wolverine-Federal Tower, Battle Creek, Mich.] The following are considered: arrival on the nesting ground, song and call notes, territory, nest, eggs, histories of individual birds, nesting season, incubation periods, young nesting success, adult weights and measurements.--Courtesy/ Paul A. Stewart.

Wall, L. E., and W. R. Wheeler. LYREBIRDS IN TASMANIA. Emu 66(2): 123-131. Oct. 1966. WR 125: 58
[59a, Upton Rd., Windsor, Victoria, Australia.] Recent information of the successful acclimatization of Menura novae-hollandiae to Tasmania which was initiated in 1934.

REPTILES & AMPHIBIANS

Anderson, Steven Clement. THE TURTLES, LIZARDS, AND AMPHISBAENIANS OF IRAN. Ph.D. thesis, Stanford Univ. 660 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 125: 58
Five species of turtles in 4 genera and 94 spp. of lizards in 31 genera inhabit Iran. A single amphisbaenian occurs within the country.

Blair, Albert P. TAIL PREHENSILE IN PHAEOGNATHUS HUBRICHTI. Herpetologica 23(1): 67. 31 Mar. 1967. WR 125: 59
[Univ. Tulsa, Tulsa, Okla.] Only desmognathine member of the Plethodontidae with a prehensile tail.

Brandon, Ronald A. AMPHIBIANS AND REPTILES ASSOCIATED WITH PHAEOGNATHUS HUBRICHTI HABITATS. Herpetologica 22(4): 308-310. 30 Dec. 1966. WR 125: 59
[Southern Ill. Univ., Carbondale.]

Brandon, Ronald A. FOOD AND AN INTESTINAL PARASITE OF THE TROGLOBITIC SALAMANDER GYRINOPHILUS PALLEUCUS NECTUROIDES. Herpetologica 23(1): 52-53. 31 Mar. 1967. WR 125: 59
[Southern Ill. Univ., Carbondale.]

Brandon, Ronald A., and Dale J. Bremer. OVERWINTERING OF LARVAL TIGER SALAMANDERS IN SOUTHERN ILLINOIS. Herpetologica 23(1): 67-68. 31 Mar. 1967. WR 125: 59
[Southern Ill. Univ., Carbondale.]

Brown, Lauren E., and Jack R. Pierce. MALE-MALE INTERACTIONS AND CHORUSING INTENSITIES OF THE GREAT PLAINS TOAD, BUFO COGNATUS. Copeia 1967(1): 149-154. 20 Mar. 1967. WR 125: 59
[Univ. Texas, Austin.] Abstract: Breeding choruses of the Great Plains toad, Bufo cognatus, in central and southeastern Arizona can be grouped into three classes of intensities of calling: high, intermediate, and low. In intermediate intensity choruses, interactions between calling and non-calling males were observed. Some choruses were apparently initiated and able to continue independent of rainfall. The type of water habitat may play a role in determining the degree of chorus intensity.

Bruce, Richard C. OCCURRENCE OF THE SALAMANDER PLETHODON JORDANI IN THE PIEDMONT OF NORTHWESTERN SOUTH CAROLINA. Copeia 1966(4): 888-889, 1 fig. 23 Dec. 1966. WR 125: 59
[Western Carolina Coll., Cullowhee, N.C.]

Burkett, Ray D. NATURAL HISTORY OF COTTONMOUTH MOCCASIN, AGKISTRODON PISCIVORUS (REPTILIA). Univ. Kans. Publ., Museum Nat. Hist. 17(9): 435-491, 7 figs. 27 Oct. 1966. WR 125: 59
Description, habitat and limiting factors, reproduction, growth and development, shedding, food habits, mortality factors, behavior, venom and bite are major topics of discussion.

Bustard, H. Robert. THE COMPARATIVE BEHAVIOR OF CHAMELEONS: FIGHT BEHAVIOR IN CHAMELEO GRACILIS HALLOWELL. Herpetologica 23(1): 44-50, 7 figs. 31 Mar. 1967. WR 125: 59
[Australian Natl. Univ., Canberra, A.C.T.]

Clapp, Roger B., and Grace M. Tilger. PREDATION ON SNAKE-EYED SKINK (ABLEPHARUS BOUTONI) BY TWO PACIFIC SHOREBIRDS. Herpetologica 23(1): 75. 31 Mar. 1967. WR 125: 59
[Pacific Ocean Biol. Surv. Program, U.S. Natl. Museum, Washington, D.C.]

Cunningham, John D. A TECHNIQUE FOR DETERMINING THE VOLUNTARY BODY WATER LOSS BY TERRESTRIAL AMPHIBIANS. Herpetologica 22(4): 315. 30 Dec. 1966. WR 125: 59
[Keene State Coll., Keene, N.H.]

Dawson, William R., and James R. Templeton. PHYSIOLOGICAL RESPONSES TO TEMPERATURE IN THE ALLIGATOR LIZARD, GERRHONOTUS MULTICARINATUS. Ecology 47 (5): 759-765, 4 figs. Late Summer 1966. WR 125: 59
[Univ. Mich., Ann Arbor.] Courtesy/ Paul A. Stewart.

DeWitt, Calvin Boyd. BEHAVIORAL THERMOREGULATION IN THE IGUANID LIZARD, DIPSOSAURUS DORSALIS. Ph.D. thesis, Univ. Mich. 102 p. 1963. [From Dissertation Abstr. 25(4), 1964.] WR 125: 60

DeWitt, Calvin B. PRECISION OF THERMOREGULATION AND ITS RELATION TO ENVIRONMENTAL FACTORS IN THE DESERT IGUANA, DIPSOSAURUS DORSALIS. Physiol. Zoöl. 40(1): 49-66, 12 figs. Jan. 1967. WR 125: 60
[Univ. Mich., Dearborn.]

Dobie, James Logie. REPRODUCTION AND GROWTH IN THE ALLIGATOR SNAPPING TURTLE, MACROCLEMYS TEMMINCKI (TROOST). Ph.D. thesis, Tulane Univ. 117 p. 1966. [From Dissertation Abstr. 27(5B), 1966.] WR 125: 60

Dole, Jim W. THE ROLE OF SUBSTRATE MOISTURE AND DEW IN THE WATER ECONOMY OF LEOPARD FROGS, RANA PIPIENS. Copeia 1967(1): 141-149, 1 fig. 20 Mar. 1967. WR 125: 60
[San Fernando Valley State Coll., Northridge, Calif.] Abstract: In summer, adult Rana pipiens, which normally reside at considerable distances from ponds, depend upon soil moisture as their primary source of water. Water is absorbed through the skin of the groin while sitting on the damp soil. Under controlled laboratory conditions leopard frogs dehydrated to 65-75% of their hydrated weight, can, on the average, completely recover the lost water in 48 hr when on sand with a moisture content of 20%; on sand with only 10% water content, only about 50% of the lost water is reabsorbed in 48 hr. Dew, absorbed through the groin by sitting on wet vegetation, may be used as a supplementary water source by leopard frogs when available, but is apparently not necessary if sufficiently moist soil is available. Occasionally, under extreme arid conditions in the laboratory, leopard frogs have been observed to bury themselves; such behavior in response to lack of moisture is probably not common in nature, however.

Douglas, Charles L. AMPHIBIANS AND REPTILES OF MESA VERDE NATIONAL PARK, COLORADO. Univ. Kans. Publ., Museum Nat. Hist. 15(15): 711-744, 6 figs. + 2 pls. 7 Mar. 1966. WR 125: 60

Duellman, William E. THE CENTRAL AMERICAN HERPETOFAUNA: AN ECOLOGICAL PERSPECTIVE. Copeia 1966(4): 700-719, 8 figs. 23 Dec. 1966. WR 125: 60
[Univ. Kans., Lawrence.]

Duellman, William E. SOCIAL ORGANIZATION IN THE MATING CALLS OF SOME NEOTROPICAL ANURANS. Am. Midland Nat. 77(1): 156-163, 2 figs. Jan. 1967. WR 125: 60
[Univ. Kans., Lawrence.] Abstract: Observations on the calling behavior of certain neotropical frogs indicate the existence of different patterns of social organization. Individuals of some species that do not aggregate for breeding purposes call in duets or trios, whereas individuals of some species that congregate at breeding sites call in duets, trios, or quartets. In at least one species, Hyla elaeochroa, the organization of calling exists only in the initial phase of each chorus. Evidence suggests the presence of dominant individuals in the social organization of some species.

Duellman, William E., and Linda Trueb. NEOTROPICAL HYLID FROGS, GENUS SMILISCA. Univ. Kans. Publ., Museum Nat. Hist. 17(7): 281-375, 17 figs. + 12 pls. 14 July 1966. WR 125: 60
Species accounts, morphological characters, natural history and phylogenetic relationships of 6 spp. of Smilisca.

Duguy, R., and H. Saint Girons. CYCLE ANNUEL D'ACTIVITE ET REPRODUCTION DE LA COULEUVRE VIPERINE NATRIX MAURA (L.), D'APRÈS LES NOTES MANUSCRITES DE ROLLINAT ET DES OBSERVATIONS PERSONNELLES. [ANNUAL CYCLE OF ACTIVITY AND REPRODUCTION OF THE VIPERINE SNAKE NATRIX MAURA (L.) AFTER THE MANUSCRIPT NOTES OF ROLLINAT AND PERSONAL OBSERVATIONS.] Terre & Vie 1966(4): 423-457, 9 figs. + 2 pls. Oct.-Dec. 1966. In French. WR 125: 60
[Museum Natl. d'Histoire Naturelle, Paris, France.]

Ehrenfeld, David W., and Archie Carr. THE ROLE OF VISION IN THE SEA-FINDING ORIENTATION OF THE GREEN TURTLE (CHELONIA MYDAS). Animal Behaviour 15(1): 25-36, 3 figs. + 1 pl. Jan. 1967. WR 125: 61
[Univ. Fla., Gainesville.] Sea-finding orientation is primarily a visual process. There was no evidence of an 'innate' compass direction preference based on celestial information. A direct view of the sea or surf is not necessary for seaward orientation of either adults or hatchlings. Light polarized by reflection from the surface of the sea is not used as a primary orienting stimulus when the water, itself, is not in sight. Orientation is not impaired when the details of visual images are blurred by a diffusing filter. It is unlikely that true color preference forms the behavioral basis of the sea-finding guidance system. The results of the spectacle experiments with color filters may be interpreted to mean that marine turtles are less sensitive to red light than are fresh-water turtles. The principal sea-finding process is visual inspection of the beach horizon and landscape features. It is not clear whether an avoidance of dark areas or an attraction to open, brighter portions of the beach is involved; the two may co-exist, and further studies are necessary to resolve the problem. A comparison of our results with those of previous studies suggests that fresh water and marine turtles have solved the problem of water-finding in the same way.--From summ.

Ernst, Carl H. INTERGRADATION BETWEEN THE PAINTED TURTLES CHRYSEMYS PICTA PICTA AND CHRYSEMYS PICTA DORSALIS. Copeia 1967(1): 131-136, 1 fig. 20 Mar. 1967. WR 125: 61
[Univ. Ky., Lexington.] Abstract: On the basis of intermediacy in laminal seam disalignment and the greatest width of the foreleg stripe as expressed as a percentage of the dorsal stripe on the second central, a zone of intergradation exists between Chrysemys picta picta and C. p. dorsalis in Alabama. The zone of intergradation supports Bleakney's hypothesis of postglacial dispersal in these turtles.

Ferguson, Danzel E., Hobart F. Landreth, and James P. Mckeown. SUN COMPASS ORIENTATION OF THE NORTHERN CRICKET FROG, ACRIS CREPITANS. Animal Behaviour 15 (1): 45-53, 6 figs. Jan. 1967. WR 125: 61
[Miss. State Univ., State College.]

Grant, P. R. UNUSUAL FEEDING OF LIZARDS ON AN ISLAND. Copeia 1967(1): 223-224. 20 Mar. 1967. WR 125: 61
[McGill Univ., Montreal, Quebec, Canada.] Carnivorous habits of Ctenosaura pectinata on Tres Marías Islands, Mexico.

Greene, Harry W., and Ben E. Dial. BROODING BEHAVIOR BY FEMALE TEXAS ALLIGATOR LIZARDS. Herpetologica 22(4): 303. 30 Dec. 1966. WR 125: 61
[Southwestern Univ., Georgetown, Texas.] "Gerrhonotus liocephalus infernalus."

Hayes, William N., and Edward I. Saiff. VISUAL ALARM REACTIONS IN TURTLES. Animal Behaviour 15(1): 102-106, 2 figs. Jan. 1967. WR 125: 61
[State Univ. New York, Buffalo.] Summary: Pseudemys scripta, Chrysemys picta, and Terrapene carolina all exhibit head withdrawal when a circular shadow is suddenly enlarged in front of them. The frequency of the withdrawals is strongly related to the speed of the shadow enlargement. The withdrawal to the enlarging shadow can be thoroughly habituated by repeated presentations, and the habituation appears to be stimulus specific.

Heidt, Gary A., and Richard G. Burbidge. SOME ASPECTS OF COLOR PREFERENCE, SUBSTRATE PREFERENCE, AND LEARNING IN HATCHLING CHRYSEMYS PICTA. Herpetologica 22(4): 288-292. 30 Dec. 1966. WR 125: 61
[Mich. State Univ., East Lansing.]

Herreid, Clyde F., II, and Stephen Kinney. SURVIVAL OF ALASKAN WOODFROG (RANA SYLVATICA) LARVAE. Ecology 47(6): 1039-1041, 1 fig. Autumn 1966. WR 125: 62

[Univ. Alaska, College.] Abstract: Data were collected on the average number of eggs per egg mass, the percentage of eggs successfully fertilized, and early mortality within the egg mass. A dilute solution of neutral red was used to mark tadpoles for estimates of population size. An average of 96% of the eggs and larvae died in four ponds before metamorphosis was complete.--Courtesy/ Paul A. Stewart.

Hock, Raymond J. TEMPERATURE EFFECT ON BREEDING OF THE TOAD, BUFO VARIEGATUS, IN SOUTHERN CHILE. Copeia 1967(1): 227-230, 2 figs. 20 Mar. 1967. WR 125: 62

[Northrop Space Labs., Hawthorne, Calif.]

Hutchison, J. B. A STUDY OF THE NEURAL CONTROL OF SEXUAL CLASPING BEHAVIOUR IN RANA ANGOLENSIS BOCAGE AND BUFO REGULARIS REUSS WITH A CONSIDERATION OF SELF-REGULATORY HINDBRAIN SYSTEMS IN THE ANURA. Behaviour 28(1-2): 1-57, 25 figs. 1967. With German summ. WR 125: 62

[Sub-Dept. Animal Behaviour, Madingley, Cambridge, England.]

Inger, Robert F., and Bernard Greenberg. ECOLOGICAL AND COMPETITIVE RELATIONS AMONG THREE SPECIES OF FROGS (GENUS RANA). Ecology 47(5): 756-759, 7 figs. Late Summer 1966. WR 125: 62

[Field Museum Nat. Hist., Chicago, Ill.] Populations of Rana blythi on one stream and of R. ibanorum on another were initially much smaller than the respective populations on the other streams. Following removal of the preponderant species, the species remaining greatly increased in numbers.--Courtesy/ Paul A. Stewart.

Inger, Robert F., and Bernard Greenberg. ANNUAL REPRODUCTIVE PATTERNS OF LIZARDS FROM A BORNEAN RAIN FOREST. Ecology 47(6): 1007-1021, 13 figs. Autumn 1966. WR 125: 62

[Field Museum Nat. Hist., Chicago, Ill.] Some lizards in rain forests breed throughout the year. Clutch size in rain forest species is smaller than that in lizards from the tropical parts of Asia having strongly marked dry seasons.--From abstr. Courtesy/ Paul A. Stewart.

Jenssen, Thomas A. FOOD HABITS OF THE GREEN FROG, RANA CLAMITANS, BEFORE AND DURING METAMORPHOSIS. Copeia 1967(1): 214-218. 20 Mar. 1967. WR 125: 62

[Univ. Okla., Norman.] Abstract: One hundred forty-four Rana clamitans tadpoles were collected during April and May 1963 and September 1963 through March 1964 in southern Illinois. The larvae of the April and May collections were approaching or passing through metamorphosis; they exhibited no alteration of diet, even during the initial stages of metamorphosis. However, the tadpoles did fast from approximately the time the forelimbs broke through the body walls until their tails were about absorbed. Water samples were taken with each of the September through March collections. The kinds and numbers of organisms ingested by the tadpoles were proportionally reflected in the water samples; this correlation was statistically significant. It was concluded that green frog larvae are fortuitous and indiscriminate feeders with no apparent food preferences. Premetamorphic tadpoles appear to feed continuously, even in winter.

Keiser, E. D., Jr. AN INEXPENSIVE OPTICAL COMPARATOR FOR MAKING FINE MEASUREMENTS ON REPTILES AND AMPHIBIANS. Herpetologica 22(4): 313-315, 1 fig. 30 Dec. 1966. WR 125: 62

[La. State Univ., Baton Rouge.]

Lazell, James D., Jr. COLOR CHANGE IN THE GECKO SPHAERODACTYLUS. Copeia 1967(1): 222-223, 1 fig. 20 Mar. 1967. WR 125: 62

[Univ. R.I., Kingston.]

Linzey, Donald W. FOOD OF THE LEOPARD FROG, RANA P. PIPIENS, IN CENTRAL NEW YORK. Herpetologica 23(1): 11-17, 1 fig. 31 Mar. 1967. WR 125: 63
[Cornell Univ., Ithaca, N.Y.] A comparison of feeding habits of mature and immature leopard frogs during Apr.-Oct.

Lynch, John D. COMMUNAL EGG LAYING IN THE PILOT BLACKSNAKE, ELAPHE OBSOLETA OBSOLETA. Herpetologica 22(4): 305. 30 Dec. 1966. WR 125: 63
[Univ. Kans., Lawrence.]

McDowell, Samuel B. THE EXTRACOLUMELLA AND TYMPANIC CAVITY OF THE "EARLESS" MONITOR LIZARD, LANTHANOTUS BORNEENSIS. Copeia 1967(1): 154-159, 3 figs. 20 Mar. 1967. WR 125: 63
[Rutgers State Univ., Newark, N.J.]

McKinney, Charles O., and Royce E. Ballinger. SNAKE PREDATORS OF LIZARDS IN WESTERN TEXAS. Southwestern Nat. 11(3): 410-412. 20 Oct. 1966. WR 125: 63
[Texas Technol. Coll., Lubbock.]

Meyer, Delbert E. SURVIVAL OF THE EARLESS LIZARD, HOLBROOKIA MACULATA, UNDER NATURAL AND ARTIFICIAL ANAEROBIC CONDITIONS. Copeia 1967(1): 163-167, 1 fig. 20 Mar. 1967. WR 125: 63
[Univ. Wis., Milwaukee.] Abstract: The earless lizard (Holbrookia maculata Gir.) can survive repeated and extended periods of submergence due to rain without ill effect. Test chamber experiments show that the animals in a quiescent state survive nitrogen atmospheres for a considerable period of time even at high temperatures. The ability to survive flooding and submergence by using anaerobic respiration is an important factor in the survival of desert "sand-lizards" and is probably important for all desert lizards.

Meyer, Delbert E., and Jenean M. Daskam. THE RETINAL STRUCTURE OF THE LESSER EARLESS LIZARD, HOLBROOKIA MACULATA (GIRARD) (REPTILIA, IGUANIDAE). Herpetologica 23(1): 1-7, 3 figs. 31 Mar. 1967. WR 125: 63
[Univ. Wis., Milwaukee.]

Milstead, William W. FOSSIL BOX TURTLES (TERRAPENE) FROM CENTRAL NORTH AMERICA, AND BOX TURTLES OF EASTERN MEXICO. Copeia 1967(1): 168-179, 3 figs. 20 Mar. 1967. WR 125: 63
[Univ. Mo., Kansas City.]

Milstead, William W., and Donald W. Tinkle. TERRAPENE OF WESTERN MEXICO, WITH COMMENTS ON THE SPECIES GROUPS IN THE GENUS. Copeia 1967(1): 180-187, 1 fig. 20 Mar. 1967. WR 125: 63
[Univ. Mo., Kansas City.]

Nickerson, Max Allen, and A. E. McDaniels. AMPHIBIOUS BEHAVIOR IN NORTHERN COPPERHEADS AGKISTRODON CONTORTRIX MOKESON (DAUDIN). Herpetologica 23(1): 60-61. 31 Mar. 1967. WR 125: 63
[Ariz. State Univ., Tempe.]

Norris, Kenneth S., and J. Lee Kavanau. THE BURROWING OF THE WESTERN SHOVEL-NOSED SNAKE, CHIONACTIS OCCIPITALIS HALLOWELL, AND THE UNDERSAND ENVIRONMENT. Copeia 1966(4): 650-664, 4 figs. 23 Dec. 1966. WR 125: 63
[Univ. Calif., Los Angeles.]

Oplinger, Carl S. SEX RATIO, REPRODUCTIVE CYCLES, AND TIME OF OVULATION IN HYLA CRUCIFER CRUCIFER WIED. Herpetologica 22(4): 276-283. 30 Dec. 1966. WR 125: 63
[Muhlenberg Coll., Allentown, Pa.]

Orr, Lowell P. FEEDING EXPERIMENTS WITH A SUPPOSED MIMETIC COMPLEX IN SALAMANDERS. Am. Midland Nat. 77(1): 147-155, 4 figs. Jan. 1967. WR 125: 64

[Kent State Univ., Kent, Ohio.] Abstract: The supposed mimetic complex consisting of the red-cheeked salamander, Plethodon jordani, and the red-cheeked variants of the Allegheny Mountain salamander, Desmognathus ochrophaeus, was tested by subjecting members of this complex to laboratory predation by four natural predator species. Predation by the eastern garter snake, the large short-tailed shrew, the Blue Ridge spring salamander, and the black-bellied salamander failed to reveal discriminatory feeding behavior. The possibility that mimicry has not been involved in the evolution of the red cheek patch in D. ochrophaeus remains. The hypothesis that infrequent but discriminate predation by uncommon predators such as birds could confer slight selective advantage upon the D. ochrophaeus "imitators" requires further study.

Pandha, S. K., and J. P. Thapliyal. EGG LAYING AND DEVELOPMENT IN THE GARDEN LIZARD, CALOTES VERSICOLOR. Copeia 1967(1): 121-125, 2 figs. 20 Mar. 1967. WR 125: 64

[Banaras Hindu Univ., Varanasi-5, India.] Abstract: Calotes versicolor at Varanasi lays its single clutch of eggs almost invariably in August. Under laboratory conditions, eggs hatch after 40-47 days. Eggs grow continuously, although not uniformly, throughout the incubation period. Hatchling size is not correlated with egg size. Sexual dimorphism is evident at hatching.

Pianka, Eric R. CONVEXITY, DESERT LIZARDS, AND SPATIAL HETEROGENEITY. Ecology 47(6): 1055-1059, 1 fig. Autumn 1966. WR 125: 64

[Univ. Wash., Seattle.] Abstract: The number of lizard species in the flatland desert habitat is correlated with several different structural attributes of the vegetation. It is shown that both the horizontal and vertical components of spatial heterogeneity are correlated with the number of lizard species. The habits of the twelve component species are considered briefly as they relate to the partitioning of the biotope space. Three species are food specialists, eight display various substrate specificities, and only one species appears to be truly "convex." Two tests of the present interpretation of these results are proposed, and some speculations concerning Australian flatland desert lizards are made.--Courtesy/ Paul A. Stewart.

Pitman, C. R. S. MORE SNAKE AND LIZARD PREDATORS OF BIRDS. Bull. British Ornithol. Club 82: 33-40, 45-55. 1962. [From Ibis 109(1), 1967.] WR 125: 64

A wide-ranging compilation of observations of arboreal snakes, mambas, cobras, sea snakes, vipers, pit vipers, the egg-eater, constrictors and "other" snakes preying on birds and/or their eggs; also rather fewer notes on lizards and tortoises doing the same. The notes are to a great extent concerned with Africa, and since much of the information was acquired in correspondence, it is unlikely previously to have been published.

Pough, Harvey. ECOLOGICAL RELATIONSHIPS OF RATTLESNAKES IN SOUTHEASTERN ARIZONA WITH NOTES ON OTHER SPECIES. Copeia 1966(4): 676-683, 4 figs. 23 Dec. 1966. WR 125: 64

[Univ. Calif., Los Angeles.]

Rand, A. Stanley, and Hymen Marx. RUNNING SPEED OF THE LIZARD BASILISCUS BASILISCUS ON WATER. Copeia 1967(1): 230-233, 3 figs. 20 Mar. 1967. WR 125: 64

[Smithsonian Tropical Res. Inst., Balboa, Canal Zone.] "In summary, (1) juvenile and adult Basiliscus basiliscus ran on the surface of water at approximately the same speed, averaging 5.6 mph, (2) juveniles tended to reach shore whereas adults tended to submerge after a short run, (3) juveniles that ran to shore were not significantly faster than juveniles that dove under the surface of the water after a shorter run, and (4) probably these lizards run across the water instead of swimming so as to minimize exposure to aquatic predators."

Rawley, Edwin V., and Alan A. Rawley. AN INEXPENSIVE MECHANICAL INCUBATOR FOR REPTILE EGGS. Herpetologica 23(1): 71-74, 2 figs. 31 Mar. 1967. WR 125: 65
[Utah State Dept. Fish & Game, Salt Lake City.]

Rose, Francis L. WEIGHT CHANGE DURING STARVATION IN AMPHIUMA MEANS. Herpetologica 22(4): 312-313, 1 fig. 30 Dec. 1966. WR 125: 65
[Fla. State Museum, Gainesville.]

Rubin, David. GROWTH AND BODY PROPORTIONS OF SYMPATRIC PLETHODON CINEREUS (GREEN) AND PLETHODON DORSALIS COPE. Herpetologica 23(1): 8-11. 31 Mar. 1967. WR 125: 65
[Ind. State Univ., Terre Haute.]

Salthe, Stanley N. COURTSHIP PATTERNS AND THE PHYLOGENY OF THE URODELES. Copeia 1967(1): 100-117, 1 fig. 20 Mar. 1967. WR 125: 65
[Brooklyn Coll., Brooklyn, N.Y.] There are three different basic courtship patterns found in the Salamandridae. In Euproctus the male captures the female with his tail and the spermatophores are deposited on her body, near or in the cloacal lips. In the salamandrines, and also in Pleurodeles and Tylototriton, courtship is based on capturing the female from below. The spermatophore is deposited while still gripping the female, and she is maneuvered to it by the male. In the other newts courtship is based on capturing the female from above, and the sexes must disengage for spermatophore deposition. It is suggested that courtship behavior should be used in salamander systematics, and on this basis, taxonomic problems are raised concerning the Salamandridae and also the genus Ambystoma.--From abstr.

Savage, Jay M. THE ORIGINS AND HISTORY OF THE CENTRAL AMERICAN HERPETOFAUNA. Copeia 1966(4): 719-766, 26 figs. 23 Dec. 1966. WR 125: 65
[Univ. Southern Calif., Los Angeles.]

Savage, Jay M. THE SYSTEMATIC STATUS OF THE TOAD BUFO POLITUS COPE, 1862. Copeia 1967(1): 225-226. 20 Mar. 1967. WR 125: 65
[Univ. Southern Calif., Los Angeles.]

Savage, Thomas. THE DIET OF RATTLESNAKES AND COPPERHEADS IN THE GREAT SMOKY MOUNTAINS NATIONAL PARK. Copeia 1967(1): 226-227. 20 Mar. 1967. WR 125: 65
[Fla. Board Conserv., P.O. Drawer F, St. Petersburg.]

Sexton, Owen J. POPULATION CHANGES IN A TROPICAL LIZARD ANOLIS LIMIFRONS ON BARRO COLORADO ISLAND, PANAMA CANAL ZONE. Copeia 1967(1): 219-222. 20 Mar. 1967. WR 125: 65
[Washington Univ., St. Louis, Mo.]

Smith, Hobart M., and John D. Lynch. A NEW CRYPTIC LIZARD (IGUANIDAE: SCELOPORUS) WITH COMMENTS ON OTHER REPTILES FROM OAXACA, MEXICO. Herpetologica 23(1): 18-29, 3 figs. 31 Mar. 1967. WR 125: 65
[Univ. Ill., Urbana.]

Soulé, Michael, and Allan J. Sloan. BIOGEOGRAPHY AND DISTRIBUTION OF THE REPTILES AND AMPHIBIANS ON ISLANDS IN THE GULF OF CALIFORNIA, MEXICO. Trans. San Diego Soc. Nat. Hist. 14(11): 137-156, 4 figs. 10 June 1966. WR 125: 65
[Univ. Malawi, Limbe, Malawi.]

Spight, Tom M. THE WATER ECONOMY OF SALAMANDERS: EXCHANGE OF WATER WITH THE SOIL. Biol. Bull. 132(1): 126-132, 2 figs. Feb. 1967. WR 125: 65
[Univ. Wash., Seattle.] Summary: Specimens of six salamander species were exposed to different soil moistures, and rates of water exchange were calculated from the changes in weight observed. Soil water was available to these salamanders in soils with moisture tensions between 0 atm. and 2 atm. At these tensions, salamanders could rehydrate fully, and can therefore be expected to

remain in water balance in any soil with a tension in this range. The measurements should be useful in determining the suitability of habitats for salamanders. The rate of water exchange between the salamander and the soil was a function of the soil moisture tension. The rate of uptake from saturated soils was correlated with the body weight and the dehydration deficit of the salamanders. There were no differences in rate of exchange or in absorption threshold between the different species. These characteristics of water exchange between salamanders and soil are related to the properties of the soil.

Stuart, L. C. THE ENVIRONMENT OF THE CENTRAL AMERICAN COLD-BLOODED VERTEBRATE FAUNA. Copeia 1966(4): 684-699, 6 figs. 23 Dec. 1966. WR 125: 66
[Univ. Mich., Ann Arbor.]

Templeton, James R. NASAL SALT GLAND EXCRETION AND ADJUSTMENT TO SODIUM LOADING IN THE LIZARD, CTENOSAURA PECTINATA. Copeia 1967(1): 136-140, 4 figs. 20 Mar. 1967. WR 125: 66
[Univ. Mont., Missoula.] Abstract: Potassium, sodium, chloride, and bicarbonate ions are present in high concentration in the nasal fluid of the false iguana, Ctenosaura pectinata. Calcium ions and inorganic phosphorus are present in low concentrations. One group of recently captured Ctenosaura had higher K:Na values in the nasal fluid than did another group maintained longer in captivity. This may have been due to a dietary dogfood supplement containing a high quantity of NaCl or to differences in Na content of their natural diet prior to capture. When each animal was injected intraperitoneally with 1 normal NaCl the salt gland immediately excreted more potassium than sodium. Within a few days the gland adjusted to Na loading and significantly reduced the K:Na ratio in the nasal fluid. The ability to fluctuate this ratio would be valuable in handling similar fluctuations possibly occurring in the plant material upon which it feeds.

Templeton, James R. PANTING AND PULMONARY INFLATION, TWO MUTUALLY EXCLUSIVE RESPONSES IN THE CHUCKWALLA, SAUROMALUS OBESUS. Copeia 1967(1): 224-225. 20 Mar. 1967. WR 125: 66
[Univ. Mont., Missoula.]

Tevis, Lloyd, Jr. UNSUCCESSFUL BREEDING BY DESERT TOADS (BUFO PUNCTATUS) AT THE LIMIT OF THEIR ECOLOGICAL TOLERANCE. Ecology 47(5): 766-775, 5 figs. Late Summer 1966. WR 125: 66
[Univ. Calif., Riverside.] Courtesy/ Paul A. Stewart.

Visser, John. COLOR VARIETIES, BROOD SIZE, AND FOOD OF SOUTH AFRICAN PELAMIS PLATURUS (OPHIDIA: HYDROPHIIDAE). Copeia 1967(1): 219. 20 Mar. 1967. WR 125: 66
[Stellenbosch Univ., Stellenbosch, South Africa.]

Walker, J. Martin. MORPHOLOGY, HABITAT, AND BEHAVIOR OF THE TEIID LIZARD, CNEMIDOPHORUS LABIALIS. Copeia 1966(4): 644-650, 1 fig. 23 Dec. 1966. WR 125: 66
[Univ. Ark., Fayetteville.]

Webb, Robert G. VARIATION AND DISTRIBUTION OF THE IGUANID LIZARD SCELOPORUS BULLERI, AND THE DESCRIPTION OF A RELATED NEW SPECIES. Copeia 1967(1): 202-213, 6 figs. 20 Mar. 1967. WR 125: 66
[Texas Western Coll., El Paso.] Abstract: Study of the little-known Sceloporus bulleri of mountainous areas in western Mexico indicates two distinct populations. Sceloporus insignis, a new species of the torquatus group from the Sierra de Coalcomán, Michoacán, and the Nevada de Colima and Volcán de Colima in southern Jalisco, shows most differentiation in color and pattern from its closest relative, S. bulleri. The two species are allopatric. S. bulleri and S. insignis seem most closely related to S. torquatus.

Werner, Yehudah L., and Karnina Drook. THE MULTIPARTITE TESTIS OF THE SNAKE LEPTOTYPHLOPS PHILLIPSI. Copeia 1967(1): 159-163, 3 figs. 20 Mar. 1967. WR 125: 67
[Univ. Jerusalem, Jerusalem, Israel.]

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Beck, D Elden, and Dorald M. Allred. SIPHONAPTERA (FLEAS) OF THE NEVADA TEST SITE. Brigham Young Univ. Sci. Bull., Biol. Ser. 7(2). ii + 27 p., 17 figs. May 1966. WR 125: 67
"This report deals with data on the fleas collected at the Nevada Test Site. Geographical and ecological distribution, host relationships, and seasonal occurrence are emphasized."

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The United States Department of the Interior, created in 1849, is concerned with management, conservation, and development of the Nation's water, wildlife, fish, mineral, forest, and park and recreational resources. It has major responsibilities also for Indian and Territorial affairs.

As America's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States, now and in the future.

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